OECD Reviews of Tertiary Education

NETHERLANDS

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GANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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s report is based on a study visit to the Netherlands in April-96, and on background documents prepared to support the a result, the report reflects the situation up to that point.

Glossary

Advisory Council for Science and Technology

Netherlands Bureau for Economic Policy Analysis

European Foundation for Quality Management

The HAVO (*Hoger Algemeen Voortgezet Onderwijs*, literally, "higher general continuing education") has five grades and is attended from age twelve to seventeen. A HAVO diploma provides access to the HBO level of tertiary education.

Hoger Beroeps Onderwijs, a higher professional education

HBO Council, the central body representing HBO institutions

Tertiary institutions providing higher professional education

Higher Education and Research Plan (*Hoger Onderwijs en Onderzoek Plan*)

Netherlands Royal Academy of Sciences (*Koninklijke Nederlandse Akademie van Wetenschappen*)

Ministry of Agriculture, Nature and Food Quality

MBO (*Middelbaar Beroeps Onderwijs*, literally, "middle-level vocational education") is oriented towards vocational training. Many pupils with a VMBO-diploma attend MBO. MBO lasts three to four years. After MBO, pupils can enroll in HBO or enter the job market.

The Netherlands Organisation for Scientific Research

Small and medium-sized employers

The VMBO (*Voorbereidend Middelbaar Beroepsonderwijs*, literally, "preparatory middle-level vocational education") education lasts four years, typically from age twelve to sixteen. It combines vocational training with theoretical education in languages, mathematics, history, arts, and sciences. Sixty percent of students nationally are enrolled in VMBO. VMBO itself has four different levels, in each a different mix of practical vocational training and theoretical education is combined.

Dutch employer association for large enterprises

Association of Netherlands Research Universities

VWO (*Voorbereidend Wetenschappelijk Onderwijs*, literally, "preparatory scientific education"). A six year course of theoretical/academic education, typically from age 12 to 18. A VWO diploma provides access to WO training, although certain profiles (combinations of subjects) are required for admittance to study certain subjects.

Wetenschappelijk Onderwijs, (literally “scientific education”) theoretical/academic education provided at a research university

1. Introduction

s of the OECD Review

s Country Note on the Netherlands forms part of the OECD c Review of Tertiary Education. This is a collaborative project to ountries in the design and implementation of tertiary education that contribute to the realisation of their social and economic es.

tertiary education systems of many OECD countries have nced rapid growth over the last decade, and are experiencing new es as the result of a globalising economy and labour market. In this the OECD Education Committee agreed, in late 2003, to carry out a nematic review of tertiary education. The principal objective of the is to assist countries in understanding how the organisation, ment and delivery of tertiary education can help them to achieve onomic and social objectives. The principal focus of the review is rtiary education policies and systems, rather than upon the detailed ment and operation of institutions.

project's purposes, methodology and guidelines are detailed in 2004a).[1] The purposes of the review are:

To synthesise research-based evidence on the impact of tertiary education policies and disseminate this knowledge among participating countries;

To identify innovative and successful policy initiatives and practices;

To facilitate exchanges of lessons and experiences among countries;

review encompasses the full range of tertiary programmes and ons. International statistical conventions define tertiary education in f programme levels: those programmes at ISCED[2] levels 5B, 5A and eated as tertiary education, and programmes below ISCED level 5B In some countries the term higher education is used more commonly tiary education, at times to refer to all programmes at levels 5B, 5A at times to refer only to those programmes at levels 5A and 6. An al complication is presented by the practice, in some countries, of higher education or tertiary education in terms of the institution, han the programme. For example, it is common to use higher on to refer to programmes offered by universities, and tertiary on to refer to programmes offered by institutions that extend beyond ties. The OECD thematic review follows standard international ions in using tertiary education to refer to all programmes at ISCED B, 5A and 6, regardless of the institutions in which they are offered.

project involves two complementary approaches: an *Analytical strand;* and a *Country Review strand.* The Analytical Review strand veral means – country background reports, literature reviews, data s and commissioned papers – to analyse the factors that shape the es in tertiary education systems, and possible policy responses. All of countries involved in the Review are taking part in this strand. In , 13 of the tertiary education systems have chosen to participate in a Review, which involves external review teams analysing tertiary on policies in those countries.

Netherlands was one of the countries that opted to participate in the Reviews and hosted a review visit in April-May 2006. The rs comprised an OECD Secretariat member, and academics and nakers from Australia, the United States, Finland, and the United m. The team is listed in Appendix 1.

ticipation of the Netherlands

Netherlands' participation in the OECD Review was co-ordinated lies Leegwater of the Netherlands Ministry of Education, Culture, ence (OCW). Jos de Jonge and Jurriaan Berger of EIM prepared the Background Report (CBR) (OCW, 2006a) for the OECD Review are provided in Appendix 2).

review team is grateful to the authors of the CBR, and to all those sisted them for providing an informative and policy-oriented nt. The CBR covered themes such as the background and content of education reforms; the structure of the tertiary education system; the ertiary education in regional development, the research effort of the , the shaping of labour markets; and the challenges faced in ng, governing, achieving equity in and assuring the quality of the education system.

Netherlands CBR forms a valuable input to the overall OECD and the review team found it to be very useful in relation to its work. alysis and points raised in the CBR are cited frequently in this Note.[3] In this sense, the documents complement each other and, for comprehensive view of tertiary education policy in the Netherlands, read in conjunction.

review visit took place from April 24-May 2 2006. An itinerary is d in Appendix 3. The review team held discussions with educational ies and relevant agencies and visited institutions of tertiary education ountry. Discussions were held with representatives of Ministries such cation and finance; tertiary education institutions; student ations; representatives of academic staff; the business and industry nity; and officials responsible for quality assurance. This allowed the obtain the views of key stakeholders in the system concerning the s, weaknesses, and policy priorities regarding tertiary education in nerlands.

s Country Note draws together the review team's observations and und materials. The present report on the Netherlands will be an input final OECD report on the overall project. The review team trusts e Country Note will also contribute to discussions within the ands, and inform the international education community about ments in the Netherlands that may hold lessons for their own .

review team wishes to record its grateful appreciation to the many who gave time from their busy schedules to assist in its work. The eam is grateful also for the informative and frank meetings that were ring the visit, and the helpful documentation provided by our hosts.

s Country Note is the responsibility of the review team. While the nefited greatly from the Netherlands CBR and other documents, any misinterpretations in this Country Note are its responsibility.

e of the Country Note

remainder of the report is organised into ten chapters that focus on ues within the scope of the review. Chapter Two provides a brief and background of tertiary education in the Netherlands, Three reviews the governance of the tertiary system and its ons. Chapters Four and Five examine the financing of the tertiary and questions of equity, respectively. Chapter Six considers the between tertiary education and labour markets in the Netherlands. Seven examines the role of tertiary education in research and on, while Chapter Eight examines policies and practices with to assuring and improving the quality of tertiary education. Issues of onalisation of tertiary education are examined in Chapter Nine. Ten offers a brief conclusion. This is followed by a set of ces.

ntext and Background of Tertiary Education Policy in the Netherlands

Netherlands is a nation of 16.3 million people (2005). It has a small ea at 41 530 square kilometres, but has long been a major trading nd is relatively wealthy: in 2005 per capita Gross National Income vas USD 32 480 in Purchasing Power Parity (PPP) terms, which was ı highest in the world when very small nations are excluded. In 2005 P of the Netherlands was USD 537.7 billion in PPP terms, 22nd in the nd the sixth largest national product in Europe. In 2004 most of dded was in services (72.0% of GDP) followed by manufacturing at and agriculture at just 2.4%. High technology exports constituted of manufacturing exports (World Bank Data and Statistics, 2006).

nation is strongly networked within the global communications providing global advantages for the nation in both business and education. In 2004 there were 524 Dutch Internet users per 1 000 on compared to an average of 480 in the World Bank's high-income of countries. There were 190 broadband subscribers in the ands compared to an average 126 in the high-income countries, and bile phone subscribers per 1000 people (World Bank, ICT data).

is true elsewhere in Europe, the Netherlands has an ageing on, and the main source of demographic growth and the driver of ducational expansion is immigration. The number of inhabitants of estern' origin, principally from Northern Africa and the Middle East, overall but exceeds 30% in the four largest cities of Amsterdam, am, The Hague and Utrecht. In these cities 51% of the population 14 are 'non-Western' (Background Report, p. 6). This group must argely in any policy consideration concerning tertiary education and ssues in relation to social and cultural integration and the most e use of human capital.

ne levels prevailing in Germany, France and the UK. The proportion uates in the 25-34 year old age group in the Netherlands (34%) is a ove the OECD average (31%). On this indicator the comparative is stronger in the older age groups. In the 45-54 year old group the ands proportion is 29% compared to an OECD average of 23%, a ce of six percentage points; in the 25-34 year old group the ands proportion of 34% is only three percentage points above the average of 31%. The fact that the participation gap between the ands and the OECD average is moving towards closure in the age groups suggests that the bulk of OECD nations are improving ation more quickly than is the Netherlands. While the Netherlands es to have a substantially larger share of young adults 25-34 with a tiary qualification than the OECD average (27% vs. 19%), it has of its 25-34 year old age cohort with a short tertiary qualification, pared to 11 for the average OECD member country. The introduction vo-year associate degree qualification is expected to narrow or e this difference (OECD, 2006a, pp. 37-39).

rkforce participation by women is lower than in some other OECD at 55% of those aged 15-64 years, and is concentrated in part-time art-time work is increasing among men. However women continue advances in the professions and in 2002 held 25% of all positions in nd scientific management compared to 14% in 1995 (Background p. 7). The balance between women and men in higher education is equal. As in most OECD nations the rate of entry of young women st degrees considerably outstrips that of young men, while men te the larger group in doctoral programmes at a ratio of three to two.

ne Netherlands 86.1% of 15-19 year olds are enrolled in education, s above the OECD average of 80.5% but on par with Western Participation of the 20-29 year age group in the Netherlands is just above the OECD average (24.7%). After 30 years age ation rates fall well below the OECD average, however. Just 2.9% of ear olds are enrolled in education as defined by OECD compared to the OECD as a whole, 15.6% in the UK and 13.5% in Sweden 2006a, p. 266). This suggests that in the Netherlands there is a y weak commitment to lifelong learning and professional upgrading ward programmes that have significant labour market cachet. This may be embedded in social culture, in that older people do not see rogrammes in tertiary education as an option, but if so the incentive

in the Netherlands higher education is seen as the preserve of the

her education is based on a three-cycle degree system, consisting of r, Masters and PhD levels, in conformity with the Bologna model. therlands has moved earlier and more comprehensively than most n nations in adopting this template though the transition is ete (Witte, 2006).

two principal sectors of tertiary education are the research-intensive ties (the WOs) and the technical or 'professional' institutions, the *olen* (the HBOs). There are 14 research-intensive universities g the Open University; eight academic medical centres and several funded research institutes affiliated with the universities. There are rnment funded HBOs. In recent years the HBO sector has become ncentrated via mergers and some of its institutions now enrol more 000 students. The WOs and HBOs are separated on the basis of a of labour (the 'binary system') in which the great majority of functions and capacities are concentrated in the WOs. In contrast ademic staff at the research-intensive universities, few HBO staff ctoral degrees. On the whole HBO graduates are more specifically to local and to occupationally tailored employment. There is a emphasis on generalist preparation in WOs. Organisationally, al academic units within the WOs on the whole enjoy greater ny than their HBO counterparts. There are mergers and cooperation he binary line but it is the subject of continuing policy tensions, arly in relation to research and the funding of Masters programmes, ssed in Chapter Three.

total number of students in higher education in the Netherlands in as 546 400. Of these 199 300 students were enrolled in the research- e universities (the WOs) and 347, 100 in the HBOs (OCW, 2006b, nd 97).

ond the binary system are designated (*aangewezen*) institutions. The g costs of these institutions are not directly subsidised by the state; r, students eligible for publicly funded student grants and loans may m to meet their study costs in accredited programmes at these ons. There are nine institutes of this type at WO level and 62 at HBO ypically quite small, enrolling a total of 60-70 000 students

g teaching duties. A small number of PhD students study on the scholarships (Background Report, p. 16). Students graduate from d research programmes at an average age of 25 years, placing them g the youngest in the OECD (OECD, 2005a, p. 422).

international standards Dutch students are very well prepared for education. The nation is in the top group for mean levels of ncy in the OECD PISA tests of mathematics and literacy among olds (*e.g.* for mathematics OECD, 2006a, p. 72). Overall ance is so high that even lower achieving school students in the ands do quite well compared to students from other nations. Once students reach higher education they have a higher than OECD completion rate, 76% compared to 71% (OECD, 2006a, pp. 99 and his is a highly selected and culturally homogenous group by son with more open systems. Many potential degree students below group are weeded out at earlier stages.

ny secondary students are not destined for higher education. During ry school, beginning at 12 years, students are streamed into three ically ordered groups on the basis of academic potential: the VWO, am constituting the pathway to research intensive universities (the hough some go the HBOs; the HAVO which provides students for Os or MBO vocational training at tertiary stage; and the VMBO repares students solely for MBO tertiary training. In total about 60% ents enrolled in upper secondary education are in vocational mes; and at the level of higher education about two thirds of all are enrolled in the HBOs rather than the research-intensive ties. Both the proportion of secondary students in vocational mes, and the proportion of tertiary students in non-doctoral ional universities' (HBOs) rather than the research intensive c universities which enjoy the highest per capita funding and social re much higher than the OECD averages. This includes other nations Finland and Germany with binary systems (for more discussion see s Five-Six).

dents selected for the VWO stream tend to have very favourable es. All who qualify for entrance to the research-intensive universities pted; most are able to enter into their first choice programme. When ions exceed the planned number of places the universities have the of either expanding the enrolment beyond the planned level, or

eless, once designated for the academic stream in secondary school, ll those so selected remain in it; and in that stream they are relatively pported. The Netherlands spends a relatively high USD 70 932 per student enrolled in the OECD category of tertiary type A and d research programmes, over the duration of the course of study. e Netherlands combines a middling level of overall spending and ation with the concentration of tertiary enrolments at degree me level and relatively generous support for the top group of in the research intensive universities who are better resourced than other countries (OECD, 2006a). The student loans system is also y generous to those eligible for it. However the situation is different e streamed below VWO level while at secondary school, whether in IBO or HAVO streams. Arguably, the three-track structure of ry schooling inhibits the capacity of the Netherlands to lift total ation in the research-intensive universities and HBOs, especially ation and subsequent completion among the immigrant communities school students are disproportionately streamed into the VMBO This became a primary concern of the team during the review (see Five).

h the exception of the top echelon of academic research, higher n institutions are not exposed to a high level of open competition; ney were it is unclear how they would respond. The HBO focus on l employment destinations of graduates raises questions about the and international mobility of those graduates. HBO instructors are demically trained than are those in the higher professional education n Germany and Finland.

Ministry of OCW (Education, Culture and Science) administers overnment higher education programmes. Other departments also ole, particularly in relation to research and innovation, including the of Economic Affairs. There are on-going issues of coordination peration within and between the ministries involved. In 2003 the nds spent just 5.0% of GDP on education compared to the OECD average of 5.9%. Both public funding of education in the nds (4.6% compared to the OECD average of 5.2%) and private (0.4% compared to 0.7%) fell below the OECD mean. At tertiary e comparative picture is somewhat stronger. Total financing of education at 1.3% of GDP was only just below the OECD average of

ECD average of 46% and an EU-19 average of 47% (OECD, 2006a, 205, 208-209).

Netherlands is a modest national investor in R&D given its total economic resources. The nation spent 1.80% of GDP on R&D in ompared to an OECD average of 2.26%. Investment in R&D in the intensive universities is stronger in comparative terms than is s R&D. Company expenditure on R&D of 0.90% of GDP in 2002 l below the OECD average of 1.40%, while Dutch public spending D of 0.67% in 2002 was on par with the OECD average of 0.68%. ondingly the Netherlands is stronger in basic research indicators innovation indicators. Dutch scientific publications constituted a 45% of the world total in 2001 (data supplied by NWO and the y of Education, Culture and Science). As noted the research intensive ties are strong in international terms, but despite rather than because system of incentives operating at the national level (see Three).

2006 OECD *Economic Survey* of the Netherlands noted that the has an excellent record in knowledge creation but a mediocre record vation activity, which is defined as the successful development and ion of knowledge in new products and/or processes'. The rate of c publications per capita is the sixth highest in the OECD and these ions have an excellent citation impact. But the nation ranks only the 2004 EIS Summary Innovation Index, well below the leaders -106). In policy circles in the Netherlands this is dubbed the 'Dutch '; though the problem is also more general to Western Europe and is own as the 'European paradox'. The 'paradox' in the Netherlands in ives from the industry structure: the Netherlands is primarily a economy and there is a limited number of large scale firms requiring The 'paradox' has stimulated a broad range of policy schemes, ents and funding incentives that are designed to stimulate innovation tain industry-university and public-private partnerships. These are d in Chapter Seven.

Country Background Report for this review concluded that the ands secures a good quality and quantity of 'outputs' for a relatively national funding outlay, though the proportion of students who e, and the speed of their graduation, could be better. 'Good value for s one of the main characteristics of the entire system' (p. 93). Good

propose a different measure of achievement, in which the public and leaders ask "is our tertiary system sufficient to meet the demands of European and global future, in which we must become a leading dge economy – and at the same time able to assist in the integration and second generation immigrant populations into the human capital ure of the nation?"

3. System and Institutional Governance

und

Netherlands aspires to use its tertiary education resources to help it nto a European leadership position among knowledge-based ies by 2010. The government has strategies to achieve this goal, set olicy documents such as the *Hoger Onderwijs en Onderzoek Plan*) 2004. Four ministries – Finance, Economic Affairs, Education, and Science and Agriculture, Nature and Food Quality – are d in formulating and executing tertiary education policy and ng toward this end.

primary responsibility for national funding, programmes and policy n higher education is assumed by the Ministry of OCW (Education, and Science). The Ministry was recently reorganised to combine the esponsible for research-intensive universities and HBOs. In the the number of OCW tertiary education staff was reduced from 140 (Interview with Erik Martijnse, CHEPS, 2006, p. 4). This sation may have affected programme capacity in specific areas the period of the visit by the review team. The ministry of ture, Nature and Food Quality is responsible for the institutions ne domain of agriculture and natural environment.

2003 the felt need to accelerate innovation processes in the ands, the 'silo' character of programme administration and the need er coordination of education, research and industry policy in key rompted the initiation of the Innovation Platform by the Prime r. This is a cross-portfolio task force with membership from the es of Economic Affairs and Education, Culture and Science, leading ies such as Philips and Shell, and personnel from the research sector

than that of the *hogescholen* (HBOs), which educate the majority of . The HBOs have a restricted power to award degrees and are not nded by government for programmes at Masters level, though they me professional and research Masters programmes and would like to these activities.

ational binary systems tradition and reality do not always coincide. litional wisdom is that the HBOs are associated with the preparation ents for work in smaller and localised enterprises, and also for ons (Background Report, p. 76), suggesting that graduates are for locally rooted professions; while by implication research e university graduates are more broadly prepared. In practice this ot effectively distinguish the HBOs from the research-intensive ties. Labour markets are increasingly mobile and career changes a working lifetime increasingly frequent. Graduates from either an work in enterprises of varying size and varying degrees of local on. Dutch graduates from either sector are now more likely than o work across the Netherlands, across Europe and elsewhere in the Research-intensive universities prepare professionals in some fields ke HBOs, could expand their role in shorter programmes and ng education. Like research-intensive universities although less so, offer some programmes with a generic content. There is overlap in s, law and communications. Some HBOs would like to expand their Arts/Science degrees.

ight be possible to distinguish the sectors more precisely on the the occupations and industries they respectively prepare, but such a on would blur in places and would be more arbitrary than onal. Rather, it is research that provides a clear-cut distinction. Only s have a significant involvement in internationally competitive basic and doctoral programmes, and have a high proportion of research- d staff. The HBOs have some involvement in research processes: ve access to R&D support through the *lectoren* programme (see Seven) and would like to extend their research activities but they do ntain a significant basic research capacity. Currently only 5% of aff hold doctoral qualifications and few HBO staff currently publish nationally recognised research journals at scale. Because many HBO members prefer to write in Dutch rather than the English used in onal journals, the HBOs are considering a reward system assing HBO-based definitions of publication and research impact

rms, these proposals appeared designed to secure closer parity with arch-intensive universities, in terms of status and resources. Perhaps funding is seen as key to closing the resources gap between the Likewise some in the HBOs see the *lectoren* programme not so s a means of developing teaching-driven research and consultancy ıs in the SMEs, so much as the beach-head for a research role ng that of the WOs. The research-intensive universities are ed that the binary system may break down if such changes go ahead. same time their own forays into professional and occupationally programmes, to secure the funding generated by student numbers, e converging with the role of the HBOs as popularly understood. re all signs of impending academic 'drift' that, if unchecked, could ne the rationale for and the structural supports of the binary on. If policy makers remained committed to the binary line they reconsider the several and mutual operations of the two sectors and tor the binary line on an ongoing basis.

ary systems based on a limited and fixed diversification can work institutions are not permitted to change mission/profile outside the arameters of their mutually exclusive roles. Such systems require policing. The alternative is to move towards a more flexible single permitting substantial variations in mission/profile. After the UK and a abolished their binary systems there was a tendency to ence around the single template of research university ıensive across the fields of study. Arguably this foreshadowed a umber of research intensive universities than either nation needed; fact both national systems contain a substantial number of ties in which doctoral training and basic research are not fully ıed in all fields. The British Research Assessment Exercise and the Australian policy of fostering greater diversity through university- missions now point towards a pattern of more complex and diverse sations within the national system. In both nations several types of on have emerged on an informal basis with self-managed groupings.

ugh binary systems have been abolished in some nations they successful in others. The German *Fachhochschulen* have secured an onal standing in excess of that of the Dutch HBOs. Doctoral ations are normal among faculty in the *Fachhochschulen* though the ons are not funded for research on the scale of the academic

the doubling of higher education enrolments between 1990 and The polytechnics are distinguished on the basis of shorter study mes, a more technically oriented and applied approach, more input vernance from employers and local and regional authorities, and a element of localised financing (OECD, 2006b, pp. 121-122). Finland pears to be moving towards a more flexible binary system in which ree and type of diversification is managed according to judgments ational and regional needs. A feature of the Finnish system is the gement given to shared facilities, programmes and marketing across ary divide. Some proposals for limited mergers are also under ration. In the Netherlands WO/HBO mergers have become a chief sm for creating flexibility and sustaining growth. However, in the of a tightly defined binary divide, without the formal mandating of ty and variety within and across the sectors, such cross-binary can compound the confusion of roles and expectations.

ne top echelon of academic research the best Dutch researchers and compete directly with the rest of the world in what has become a knowledge system. The quality and quantity of research in the intensive universities is testified by international comparisons of ion and citations across all broad discipline groups, with Dutch in Medicine a standout area; and though there is continuing scope rovement, the nation can be proud of its achievements in this regard, rovide a solid floor for the national innovation system. Nevertheless re some indications that Netherlands research is less than fully tive as a national system *qua* system. The spirit of excellence tends oncentrated at the top of the academic profession, the part directly d in international research at the highest level, rather than permeating le of localised research and scholarly activity. Voluntary cultures of c excellence are better at driving high performance among the best ers than in the whole of a knowledge system. Given the present e structure it is doubtful that the Netherlands can attract enough foreign researchers to compensate for the front rank Dutch ers who leave the country. Further, though NWO funding is d on the basis of merit, competitive pressures in the research funding ent of the basic grant are muted. That part of basic research funding performance-related is provided in the form of lump sums to the ties so that there is no guarantee that it will be internally allocated to forcement of research capacity rather than, say, plugging holes in

tion brought to bear on research funding and a clear-cut linkage between research merit and resource support.

ne student markets, where there is no equivalent of the drive for top-search excellence, competitive pressures are weaker than in research. 3Os have no obvious international competitor for their student The research-intensive universities have a guaranteed student ' as well. There is no systematic evidence on the quality of teaching sector: no one knows if this is improving or declining. In response oncerns on the point of teaching quality, the review team was d with data on employment rates of graduates, and on the ation process. While graduate employability is in itself a relevant r, especially from the point of view of graduates themselves, it answer the need for data on teaching quality. Employment rates do nguish between educational effects and labour market effects.

s a truth universally acknowledged in the research-intensive ties, one also emphasised to the review team by VNO-NCW, that niversities must position themselves in the international context. The of internationally competitive research excellence is formally d in the Netherlands through the process of accreditation of nt' research schools and the involvement of foreign peers in the quality assurance of research schools (Background Report, p. 77; see Seven). Some national research schemes turn on competition bids for support of projects and individuals, though the majority of ance based funding continues to be allocated within the block grant, etards direct competition on the basis of excellence. In general direct tive pressures and allocations are shaped more on a disciplinary an an institutional basis. The new question at issue is the potential of resource concentrations on an institution-wide basis, interacting status driver typical of elite research universities, to strengthen the ompetitive position of research in the Netherlands.

better or worse the present global standing of Dutch universities is d in, and to a degree formed by, their position in the two sets of niversity rankings issued annually by Shanghai Jiao Tong University nced in 2003) and the *Times Higher Education Supplement* nced in 2004).[4] Dutch universities do fairly well under both

global university rankings issued by *Newsweek* are not separate rankings in

s. Of the two the more significant data are the Shanghai Jiao Tong
s that are transparent, based on credible metrics and focused on
, the main signifier of the standing of university activities
de. The bulk of the Shanghai Jiao Tong index is determined by
ion and citation, principally in the science-based disciplines with
tention to social sciences and humanities: 20% citation in leading
; 20% articles in *Science* and *Nature*; and 20% the number of
n/ISI 'HiCi' researchers on the basis of citation (Institute for
ic Information, 2006). Another 30% is determined by the winners of
Prizes in the sciences and economics and Fields Medals in
atics, based on the location of training (10%) and current
ment (20%). The remaining 10% is determined by dividing the total
from the above data by the number of faculty.

Tong research performance is dominated by the English speaking
which have 71% of the world's top 100 research universities, and
arly by the United States which has 17 of the top 20 and 54 of the
in 2006. The Netherlands has two universities in the Shanghai Jiao
orld's top 100 - the University of Utrecht at number 40 and the
ity of Leiden at 72 - and seven universities in the top 200, which
Amsterdam, Groningen, Delft, the Free University Amsterdam and
ngen. On this measure the Netherlands is sixth nation in the world
USA (87 universities in the top 200), the UK (22), Germany (15),
9) and Canada (8) and just ahead of France, Switzerland, Australia
y with six universities each; although France, Switzerland and
all have more universities than does the Netherlands in the Jiao
op 100. In total the Netherlands has 12 universities in the full Jiao
op 500: the remaining five are Erasmus University in Rotterdam,
en, TU Eindhoven, Maastricht and TU Twente (Shanghai Jiao Tong
ity Institute of Higher Education, 2006).

institution and nation's performance in the Jiao Tong ranking is
by the presence of 'HiCi' researchers classified by Thomson/ISI as
he top 250-300 in their field worldwide. 3 614 of the Thomson/ISI
' researchers are in the USA, compared to 224 in Germany, 138 in
94 in Switzerland and 55 in Sweden. There are 90 in the
nds. In comparison Harvard and its affiliated institutes have 168
searchers, Stanford has 132, and the University of Cambridge in the
42. In the Netherlands Leiden has 15 HiCi researchers, Utrecht 14,
ngen 13 and the Free University 10 (Institute for Scientific

utch Universities in The Shanghai Jiao Tong University Ranking of The World's Top 500 Research Universities, 2006

	Position in Jiao Tong University rankings	Number of Thomson/ISI 'HiCi' researchers
recht	40	14
iden	72	15
nsterdam	102-150	6
oningen	102-150	4
J Delft	151-200	1
ee University Amsterdam	151-200	10
ageningen	151-200	13
asmus, Rotterdam	201-300	5
jmegen	201-300	1
J Eindhoven	301-400	0
aastricht	301-400	1
J Twente	301-400	2
her researcher locations	n.a.	18

= not applicable

m the point of view of system organisation, the question now posed d rankings is whether, and if so to what extent, government should a deliberate policy of concentration of resources and activities, arly in research, so as to enable the top research universities to e on more equal terms with the English-speaking nations. Front rank ties are strong global magnets for high calibre researchers, doctoral , public research funding from different nations, and corporate s in university research located anywhere in the world. All else qual, the location in the Netherlands of several universities with the and status firepower of Oxford or Yale would significantly increase capacity within the global knowledge economy; although in itself it not guarantee that this enhanced capacity would necessarily be to national economic objectives. A number of national governments ently considering the potential offered by policies of concentration stitutional basis, notably Germany, Japan, and China. This is distinct

f institutional status (the 'brand') is deployed to maximum national
oal advantage.

the other hand, those national governments that go down this road
nt to avoid weakening existing research capacity and morale in
ons not chosen for front rank status. A broad-based national research
is also an advantage in the global context. It would be better to
by adding new resources to the designated institutions, rather than a
n distribution which may leave the national system no better off

ome respects the structure of institution-government relations in the
ands is closer to that of the UK than the public service
trations of much of Europe. The model has been described as 'state
ion' rather than 'state control' (Background Report, p. 72). Since
W Law on higher education first issued in 1992 institutions have
a relatively high level of autonomy. They receive a block grant
vernment based on a transparent formula, own their buildings and
professors; though Ministerial permission is required to move into a
cation or offer a programme that may be duplicated elsewhere.
onal control over student numbers is limited by the fact that they
dmit all students with the required secondary school certificate,
limits can be set in particular subjects (Background Report, pp. 71-
the research intensive universities there is external accreditation
han self-accreditation. As in many other national systems, in recent
entral government has exerted a greater authority via accountability
ments. It seems this is driven more by avoidance of risk than by
closely shape the product of higher education.

ent experiments in institution-government relations tend towards a
arket-like system, for example through tuition price variation. There
in measures that open up a more diverse range of provision and of
hes to existing provision, provided that the incentives point
rs, consumers and community and industry users of higher education
excellence and innovation, *e.g.* rather than institutions competing on
s of price cutting in standardised programmes. Measures opening up
active role for student decision-making; and/or encourage higher
f student achievement are especially welcome. At this stage these
xperiments have had minor effects in the system as a whole. (More
bout this area below and Chapter Four).

ance-related component and another component known as the c Considerations Component. It is provided on the basis of block . Stream 2, approximately 10% of research funding in total, consists ng allocated on academic grounds by the principal research funding based on evaluation of research excellence and competitive funding ects and programmes. The remaining 30% of research funding in 3 is monies for research conducted for government departments, ancy income, philanthropic foundations, European sources, etc. 2004a, p. 19). Institutions are required to support Stream 2 and 3 ons with a portion of their Stream 1 monies. One problem that has s that under this formula certain institutions whose incomes under 2 and 3 exceed income under Stream 1 have a disincentive to seek Stream 2 funding (see Chapter Seven).

rently almost 60% of total university funding is performance-based will rise to about two thirds when the Smart-Mix component is see Chapter Seven). About half of all university researchers are now om Streams 2 and 3 (AWT, 2005, p. 3). The three-tier structure government and national research agencies to influence the flow of s by varying the performance-related components, and varying the overning the relationship between Stream 1 and the other Streams. are already a lot of incentives in university research... the ity) research sector is one of the most competitive sectors of Dutch (p. 10). On the other hand, as noted the proportion of research that is allocated by direct competition for specific support on of excellence – the 10% in Stream 2 - is relatively low.

institutional governance of the WOs and HBOs is distinctive to the ands and might constitute a useful option for other nations to r. The Executive Board structure based on three key executive el (typically designated as Rector; President; and Vice-President, ector or simply as third member of the Executive Board) constitutes a e of distributed leadership with less dependence on and pressure on a ivotal authority. The Executive Board structure allows part of the onal executive to be appointed from outside the university while ng this with leaders drawn from faculty ranks; and is capable of a range of variations in the division of portfolios, and the /external balance of responsibilities. It can be shaped around the ar strengths of the individuals concerned and/or the strategic needs

he institution to mobilise a range of constituencies as constructive tors to governance, while anchoring the institution more firmly. s an often and particularly local utility in the HBOs but is at least as important in the research universities in providing lines of ability to industry and community. On the evidence available to the team, both the structure and culture of Supervisory Boards is e. In the institutions visited, it was reported that the Boards become involved in the institution while respecting academic freedoms and ve prerogatives. The Supervisory Boards may also serve as a training for some outside personnel who are subsequently appointed to ve Board positions.

n types of institutions provide employees and students with an y voice in governance and management and at field of study level. involvement in decision-making has been framed at a more d level compared to most other higher education systems. One is that it can be difficult to secure the participation of sufficient s of personnel and students in active roles within the structures ound Report, p. 75).

he level of fields of study, in the research universities the Faculty p operates in a manner more similar to academic bodies in other while the HBO director functions more like a manager in a ally managerial organization. The Deanship varies in term of office thod of appointment, the extent to which the dean is full-time, and nt to which he/she is drawn into central institutional governance. ons also vary in the extent to which internal allocations are ance-related, central authorities can generate initiatives and/or retire t faculty level, and non-faculty staff are administered at central or evels.

s

her education in the Netherlands is stable, well rooted in the history ture of the nation. Governance, regulation and management being ormal and partly customary, are well understood by practitioners at ls. Arguably the primary strengths of higher education in the ands lie in its functioning at institutional level, especially but not the stronger research universities; and these institutional virtues are

g and occupational preparation, research and consultancy, and nity services.

nough governance is not always transparent, geographical proximity nsure that all parts of the system are aware of and accessible to each nd are known to and know of national government. These virtues are arly manifest in the systems of research support. The set of schemes ering university-industry cooperation is perhaps unduly complex (see Seven) but sustains an intensive level of networking and mutual nding that helps to drive high basic research performance.

re are established traditions of institutional autonomy, sub-onal autonomy and academic freedom, more so in the research ties than in the HBOs. Perhaps the governance model works a little n the research intensive universities for this reason, given the alised character of faculty cultures, and authority that is often y rather than bureaucratic, providing that formal and informal ance drivers establish an adequate framework of incentives. The nce model is optimised in institutions where decentralised academic operates in tandem with central executive systems for steering s and monitoring performance that are tailored so as to fit each field ty.

the institutional level the temper of governance on the whole is consultative and democratic. Little energy is wasted in symbolic g and conflict. People get on with the job.

re are also well established habits of cooperation throughout higher on, as evidenced for example in the collaboration between the l universities, the merger negotiations between research universities Os, and the operations of agencies such as TNO that work across boundaries. Another example is the cooperation between the ngen University, the agricultural HBOs and Agricultural Education (offering vocational and pre-vocational education) within the of agriculture and natural environment. These institutions together e "Groene kenniscoöperatie". Though there are tensions in the binary me tensions are inevitable in any binary system.

other strength is that at times the national authorities make effective isinterested expertise in policy making. One example is the Advisory for Science and Technology Policy, which has a mandate to provide

nents are willing to use experts creatively in this way. At times the nent also makes effective use of foreign expertise, for example in the on of policy tools and programmes; as indeed the government ed this thematic OECD review by an external team.

distinctive structure of governance at institutional level, with ve Boards and Supervisory Boards, has significant strengths and as is one that other nations might consider.

sses

ed on the evidence of the interviews and consultations during the visit, the review team concludes that although they are said to be nt national goals, the Lisbon targets appear to be given 'lip-service' an effective and practical commitment. We suspect that this is an e of a more general problem. It seems that the practical implications nal goals in tertiary education, in the areas of priorities, resources transformation of practices and cultures, are rarely analysed or ledged. In other words, such goals appear to operate largely at the al level and as part of the 'noise' of electoral politics, with not much about implementation. If this is so, it is a key weakness in the of the higher education system *qua* system.

le the work of tertiary institutions is often good, this happens despite nan because of the national policy framework and incentives. The weaknesses in governance and management are found at the level, in system policy and steering. The review team became ly concerned about the handling of strategic direction and new nitiatives at OCW (with the partial exception of the policy field of and innovation, much of which lies outside OCW). In many Dutch higher education system appears to be on 'auto-pilot'. The (and perhaps willingness) of government to provide executive ip so as to shape the system in the national interest, including global tiveness and trajectory, appears under-developed. Some initiatives taken appear to be a case of being seen to do something, rather than ng real problems with real solutions. These weaknesses, some of may have their roots in the larger policy/political culture of which s only one part, retard the capacities of nation and institutions to to contemporary challenges. One example is the OCW-generated

or did it go to the root of the problems of Dutch tertiary education, it contribute to the building of a policy consensus for new solutions uld be effective and lasting rather than tentative and symbolic. Here not making an argument for more centralised and still less for more ratic approaches to government, which would retard rather than global competence. Rather, the need is for a *strategically effective on*: for a more functional, goal driven relationship between ve local institutional autonomy, system culture and national ve strategy. This is likely to mean more local autonomy not less, and ntral bureaucracy not more - but also greater transparency at all nd a more strategic approach to policy. And it should also add up to ed system and institutional performance in the relation to the big performance goals such has the Lisbon targets, global tiveness, and the inclusion of immigration-based communities. It is g-term outcomes that matter. Here we would contrast the more approach taken by OCW to the strategic and long-term thinking d by policy makers in rising Asian science powers such as re, Korea and China.

r-departmental and intra-departmental coherence also could be ed. For example, the Economic Departments of government have nt policy ideas in relation to higher education, and the capacity to cross different portfolio areas so as to integrate Education more ely into national priorities. The OCW has the main executive bility in relation to education programmes but does not command ucy power of the economic ministries and perhaps this overall of labour contributes to the limitations of governmental leadership ary education. Based upon conversations with civil servants and ducation institutions, the review team developed the impression that y of Education officials sometimes viewed the interventions of other es, such as the Ministry of Economic Affairs, as a threat to its role in g higher education policy. Rather than departments responding vely (or aggressively) it would be better to coordinate more ely. There also appears to be room for improved coordination on one hand the arms of government responsible for education, and other hand the arms of government responsible for immigration and for immigrant populations.

attitude change is needed but equally important are formal

is of interests, and the distance between it and programme entation.

de the OCW the division of labour is not always stable, integrating isms across bureaux or work units appear to be insufficient, and the experience in key eras can be highly uneven. The OCW appears to fficient personnel with a close knowledge of the inside workings of institutions, for example those who have worked as faculty or in ty administration. The Inspectorate does not seem well integrated er operations.

eems that decisions are often 'guided' by short-term factors, and not nd transparent long-term planning agendas. Perhaps OCW lacks the to establish genuine operational priorities and focus, and to push for excellence in a determined way in defined areas so as to achieve identified outcomes. Our judgement here is that the OCW tends to he ebb and flow of currents and tensions in the sector, and in the olicy/political environment, rather than being a point where these and tensions are resolved. While an element of short-term veness is an inevitable and desirable part of democratic government, issue is how short-term and long-term agendas are managed in to each other, so as to keep the longer-term policy objectives in Ve would expect that a department of government - as distinct from ce of the Minister - should be a voice for policy rather than politics, uld carry a brief not for the quick fix but for the long term health and eness of the system for which it is responsible. The result of being sponsive than responsible is that the policy position of the Ministry lways transparent, and in some cases there is no policy. This has uncertainty in higher education institutions and their representative ations about 'what the government thinks'. We emphasise that we imagining or intuiting this problem. The point about 'what the nent thinks' was made frequently to the review team during the visits, and was heard in government agencies as well as in ons with the institutions and the stakeholder organisations.

re attention needs to be given to the development of best practice ents competent to formulate, initiate, steer, monitor and evaluate in ional interest. Correspondingly, data collections are not fully ent, and data capacity in certain key areas is poor, for example rder faculty movement; cross-border movements of doctoral

nensive data collections, often via accountability requirements. data collections are essential to steering instruments that are nt with self-management and operate at a distance.

ewise, the Netherlands would benefit from a stronger practice of xperimentation, for example in the use of pilot schemes, and bid-pportunities to create new initiatives from below.

hin a binary system that is marked by a high degree of uniformity each segment, formula-based resource allocation to and within ons, and a student market with little dynamism, higher education s are perhaps too uniform and predictable. This is the downside of efits of stability. There is an under-developed capacity to steer, and reinvent practice in response to changing needs, for example the g requirements created by global competition and European labour . Executive steering at one level cannot always compensate for cies in the other. Many other higher education systems have a steering capacity at government level, institutional level, or both.

requirement that the Ministry sign off on new programmes seems tent with the broader pattern of university autonomy and tends to nnovation. While the intention is to avoid duplication, monopolistic sation does not always produce optimum results. Even in similar mes competitive pressures and the aggregation of best practice nce can be productive, especially where diverse approaches are ed. Rather than attempting to sort these possibilities from the ial office it would seem better to allow evolution to take its course, exception of specific areas such as Dentistry and Medicine where oning of provision and centrally determined specialisation are y for both economic and professional reasons. This issue is further ed in Chapter Eight.

binary line provides for two sectors with distinct roles but neither is ing at optimum level; nor does the fairly inflexible binary structure he fullest range of national needs to be met. The research intensive ties are relatively strong in basic research and find it relatively easy ate their relatively homogenous clientele, but their relationship with is provider-pastoral rather than student-driven and given the sms of funding and enrolment the adequacy of teaching and support is untested through the rigours of competition. The HBO system,

g-oriented institutions - and the structure of the educational lace in the Netherlands - protects them from systematic scrutiny and tion on these national and international dimensions. Given these frameworks neither sector is guaranteed to be competitive in the ent of foreign students or to respond to the substantial challenges of sation, global competition and immigrant populations. In addition to principal sectors there is a small number of *aangewezen instellingen*, institutions with the authority to award degrees. These have a very nrolment share and do not constitute substantial system diversity or meaningful competitive pressure for the WOs and HBOs.

re is insufficient scope across the system for diversification and sation. Differences in mission and *modus operandi* are restricted to owing from the binary line and this is relatively inflexible. Without versity within each segment, a renovation of the HBOs to reflect a odernised and global service economy, and more active relationships institutions and their student and employer markets, the binary constitutes a limited, inflexible division of labour.

as the weakness of direct competition for research programme and funding diminishes the potential for excellence in the research so the absence of a genuine market in teaching inhibits both ce and client-oriented diversity in that sphere. The funding and nt system creates certain perverse incentives that work against both ce and diversity of programme and mission, such as the ation of guaranteed local entry to specified 'seats' and the boosting ent numbers beyond capacity to augment income. The absence of price variation in most programmes means that it is difficult for ons to create 'lighthouse' programmes with high quality or ve new mission.

outcome is that while institutions enjoy an appropriate level of nal autonomy, public authorities have failed to create a policy ork in which tertiary education institutions can fully exploit that ny through innovation and client-oriented specialisation, and external can be brought to bear on the institutions so as to entrench them in priorities and local needs.

ddition the system is largely closed to foreign institutions, despite s that they might offer valid educational opportunities for Dutch students, and some Dutch citizens already go abroad for higher

ther sub-set of the segmentation and diversity issue is the question ible 'super-league' institutions. Although the quality of basic in Dutch universities is very good overall, and all research ties contribute to this, at this stage the nation has not developed ling individual research universities that are comparable to those of and the UK, or even those of Switzerland.

he institutional level, in the research universities while practices the whole there is insufficient recognition of the value of central ip, planning, management and monitoring in achieving policy goals. appears that central executive capacity is weak *vis-à-vis* the s. There is inconsistent evidence of a performance economy within ons, or a nuanced capacity for strategic adjustment of resources. little evidence that in either sector institutions consistently reward ce in teaching (especially) and research according to agreed and ent criteria. Decentralised allocations are more performance-related universities than others. Funding often tends to follow standardized e. At the central level at least some universities do not appear to mprehensive data sets that can enable them to profile themselves in ent fashion, and test faculty performance against targets.

e interpret disciplinary autonomy as *sui generis* independence. independence is appropriate in determining the directions of and scholarship. But autonomy should never be solely self- ing and non-transparent. Teaching and research within academic ould always be coupled to tests of excellence and use. Nor should activities be conducted in the absence of the centrally determined s, strategies and requirements of the institution. In Dutch research ties it is not always guaranteed that the faculties will work to fulfil onal missions, achieve performance targets, optimise incomes and cies, and secure identified developmental priorities. It is true that erencing operations can produce outstanding outcomes, but this is in very strong institutions where the tests of excellence are realistic, ous and exacting, rather than merely ritualistic. One classic example rongly performing university coupled to a weak executive is the ity of Cambridge in the UK. Given the demands of modernised tration and the intensely competitive character of global higher n such cases are exceptional; and even in such cases, when central ciplinary strategies are not coordinated in optimum fashion results

ess of comparative international benchmarks and performances, at the level of fields of study and research groups. Likewise there is ssary consistency between national and local mechanism and drivers. e on Stream 1 for the bulk of research funding reduces the potential exercise of national strategic leadership in relation to research and c development, the more so because by their nature the content of programmes are slow to change and teaching the costs are relatively

both the research universities and the HBOs there seems to be ent awareness of the potential for diversifying and increasing s. Neither the drive to build commercial incomes, nor philanthropic , is universally or strongly established (for more discussion see Four).

HBOs would benefit from the development of a fuller range of ents of steering such as performance monitoring, and strategic ment funds distributed on a competitive basis. Compared to the -intensive universities, the HBOs appear to have fewer professional ached to their executive boards. This reduces comparative steering . Some HBOs also seem to reflect a more top down and bureaucratic with less capacity for initiative at the point of delivery of services. enhancement of the capacity for autonomous action requires the nce of an academically stronger leadership at the unit level of the ut more could be done to nurture such an approach.

both sectors innovations in the educational programme can take too nhibiting responsiveness. One research university administrator d to the review team an innovation cycle of 4-5 years duration. The do better in this regard: one HBO board member estimated the time at 18 months. Both make an interesting comparison with the time required to start a business in the Netherlands, which is (World Bank statistical data for 2004, *Netherlands data profile*).

dents have an important formal role in governance, particularly in ons, but an under-developed role at national level. HBO students have only a weak presence in national student organisation.

noted, students have little effective authority in terms of resource There is notion of a student-centred market is formally ledged but in the context of near automatic entry systems and the

le choice of university and faculty is a stronger area (see Four).

endations

study team strongly recommends review of the mechanisms for oordination between the Department of Finance, the Department of ic Affairs, and the Department of Education, Culture and Science, ensure the more coherent alignment with national policy objectives lership, of programme administration in education and research.

further suggested that there be a review of existing OCW data on, analysis and dissemination procedures in order to ensure more nensive coverage, and also greater national and international ency of, and awareness of, the national system of higher education.

any kind of binary line to be viable in the longer term it is necessary th sectors are operating at a continuously advancing level of sation, with the capacity to shape both a national and international en while such roles may continue to differ between the sectors. If the re weakly integrated into national, European and global contexts, ne they are likely to become increasingly unattractive to local and students, to potential faculty and to Dutch employers and the larger so becoming increasingly destabilised and forced into measures d to strengthen their profile regardless of the preferred national role real capacity.

binary line should be rendered more dynamic over time, with freer n across and between the sectors. More attention should be given to ing student pathways between the two sectors (see Chapter Five) further increasing the institutional cooperation between them. r if the binary line is to be maintained then variations should take n of collaborative arrangements and couplings of distinct units from ctor, rather than free-standing imitation and blending of functions. ic research mission of the WOs, and their monopoly of research in the form of research Masters and doctoral degrees, stands as the l dividing line along which the binary system can be policed.

occupational mission of the HBOs suggests that they should move xtensively into flexible short courses, continuing vocational

ate with foreign universities. In the knowledge economy context, it ult to envisage reflexive advanced training that is not somewhere o an R&D capacity.

the other hand the development of a broad HBO capacity in *basic* would deplete resources needed for further building the research- e universities to global competitive levels of capacity and ance. In the absence of such an HBO research capacity it is ble to justify the introduction of government funded research and doctoral programmes – especially given that there are few HBO ly qualified to provide research degree supervision - or additional o support basic or strategic basic research in the HBOs. Without a ant capacity in basic research a university cannot be fully tive in applied research and consultancy, but some such activities in reach. The research role of the *lectoren* should be built in the f teaching-led research, rather than trying to create research-led g as applies in the postgraduate programmes of research-intensive ties. The *lectoren* programme thereby would better contribute to the of the HBOs in professional education and while establishing a onsultancy function serving SMEs.

hout creating the expectation of a level playing field in research , HBOs should be free to bid for competitive government research nsultancy funding, as AMK higher professional institutions are ed to do in Finland. This is consistent with recent developments such *ectoren* programme and would ensure that as pockets of capacity in the HBOs, these become more fully accessible to the national on system. Inescapably, the augmentation of R&D capacity requires loyment of more doctorally trained staff in the HBOs. In the next t becomes possible to do this at scale, because a surfeit of PhDs in isciplines, given the difficulty of obtaining faculty posts in the intensive universities, coincides with the large number of ng retirements in the HBOs generated by the present age profile of aff (further measures to develop research capacity in the HBOs are ed in Chapter Seven).

ne research intensive universities the central research agencies could greater strategic purchase on priorities if additional public support arch was channelled through Stream 2 (especially) and Stream 3 han Stream 1 funding - provided that Stream 2 was reworked to

elation to institutional diversity, consideration should be given to policies designed to qualitatively strengthen selected research ties, possibly through additional funding for research infrastructure grammes, and deregulation of academic remuneration to facilitate ointment of high calibre foreign faculty and post-docs. Such a me of fostering 'global universities' would need to be widely d within the Netherlands in order to facilitate the achievement of a d national consensus concerning the selection of the institutions.

ernment could establish a project-based fund for institutional on in management and internal systems, subject to bidding. For , institutions could submit proposals for funding for innovations in lection systems and performance-based resource allocation.

nstitutional level there is scope for substantial enhancement of the strategic funding in the hands of both central boards and of faculty nd committees. It is noted that the Chang committee recommended tion of a financial reserve at the level of the Board, for distribution asis of performance and of bids for innovations. Faculties and sub-units, including research groups that raise additional private incomes be rewarded by allocating them an enhanced proportion of public ; provided that institutions continue to safeguard the resources of sciplines with minor prospects of raising non-government income.

4. Resourcing Tertiary Education

und

iary education in the Netherlands is financed primarily by ıent support of institutions. Institutional support from public sources 6 is approximately EUR 5.3 billion. This represents an estimated total support, with approximately 21% provided by private sources tuition fees and private contributions. Based on 2003 data, the ands is somewhat above the OECD average of 76% from public and below the average of 24% from private sources (OECD, 2006a). e government support of student financial aid of various types adds nately EUR 1.7 billion to the overall effort.

Netherlands' total financial support of tertiary education institutions ssive by several measures. Comparing European Union countries on is of the 2006 figures, the Netherlands ranks third only behind and United Kingdom in expenditures per student, including research tures. Excluding research expenditures, the Netherlands ranks third hind Denmark and Belgium. The amount of per student support in terms over the past eight years has not declined markedly, despite all increase in enrolment and an economic recession. (OCW, 2006c, 24-27).

the other hand, comparing per student expenditures relative to per DP, the Netherlands ranks well below the OECD average and below EU countries (OECD, 2006b, p. 122). Per student expenditures to GDP per capita are a measure of expenditure per student that has ndardized to national wealth. This shows that *relative to its national* and the size of its student population, the Netherlands is spending average than most other OECD nations.

institutions), were EUR 1 496 for most students for 2005-06. s who begin their studies too late, or take too long completing them, coursework unfunded by the government, must pay higher rates set nstitutions. The lack of a private university sector in the Netherlands' education configuration limits the potential of more market driven s from tuition fees.

ıe research-intensive universities and in the HBOs between 1995 and ere was almost no change in the proportion of total funding sourced ıdents (OCW, 2006c, pp. 51-52).

ıoted in Chapter Three, over the past decade institutions have gained ıtonomy, including ownership of their own campuses and capital s. Formula based, lump sum budgeting has replaced a more zed, regulatory approach. Lump sum budgeting provides many ges over alternative methods. It replaced a system in which ve time and resources were devoted to regulatory compliance. The ation of tertiary education has allowed institutions more flexibility ms to be paying off with increased institutional cooperation and on. Institutions have merged with one another, worked together to more programmes based on students' needs, and developed better , relationships in their respective regions, according to anecdotal e gathered in numerous interviews with institutional administrators.

lump sum allocations are based on relatively simple formulas for tion of financial support among both types of institutions in the system. Institutions' education budgets, exclusive of research, are ıp of a base funding component, representing 37%, a results ent calculated from the number of diplomas, representing 50%, and ponent based on the number of first year students, representing 13%. Os, total enrolment is used and dropouts are considered as well as receiving diplomas. Another factor, to improve HBO efficiency, is o the formula to encourage timely completion. If students take more 5 years to graduate and dropouts remain more than 1.35 years, a onate factor of less than 1.0 is applied to the formula (Background pp. 62-63). Research funding is added to the lump sum distributions s and budget support for *lectoren* is added for HBOs, as discussed n Chapter Seven.

eral years ago, public institutions were given both ownership and of their own campuses and capital facilities. Capital expenditures

ons can use debt financing when necessary to pay for the facilities
years of their useful lives.

006 the Ministry of Education developed a bill – now suspended –
ng the implementation of student "learning entitlements." Under this
l, when a student registered the national government would credit a
t directly to the enrolling institution, so that government support
follow students' enrolment choices more closely. Additionally, the
d law envisioned moving towards a more differentiated system
more choices in pricing, programmes and quality. If such a proposal
opted, it would be a significant departure for the Netherlands in that
tion between institutions might stimulate welcome changes such as
d teaching, programme innovations, changes in the relationships
costs and revenues, and additional discretionary revenues. There
also be difficulties with such an approach: for example, already
institutions could take advantage of weaker ones without
nsurate improvements. A differentiated system that entails student
n and pricing changes would also invite new questions about equity.
ore about equity in Chapter Five.) The student financial aid system
need to change to accommodate higher tuition fees. The Netherlands
ed to look to other countries such as the United Kingdom for new or
al student finance models. All of these possibilities are likely to
e debate on the mechanisms and limits of differentiation. The
ty of selection 'at the gate' or point of entry is itself a big shift in
These matters may be reconsidered by the new government that has
med in 2007.

nts to students (which, unlike loans, do not have to be paid back
d the student graduates in time) totalled EUR 786.2 million in 2004.
grant is provided to all students, and there is a supplementary grant
to parental income for those of lesser means. Since 2000, the
of grants has been limited to the normal number of years it takes to
e the course. If students are still studying at the end of that time they
d alternative finance (Background Report, p. 20). One way is to take
rom the government. Students can take a loan of up to EUR 800 per
for three years after the grant period. During this time they receive
lic transportation allowance as a grant. A public transportation
ce provides students an additional 298 million Euro benefit, and
students add another EUR 597 million. In 2003 25.9% of all public

middle class families). At the same time students from poorer unds receive the additional supplementary grant. At present 30% of receive the supplementary grant and a total of 43% of all grants upplementary and public transportation) go to those students.

ns are not considered outlays in the national budget inasmuch as ovide future revenue for the government. Student loans are handled the government so as to avoid excessive student loan subsidies to Loans provide relatively generous repayment terms, including a eriod of two years before repayment begins, forbearances for low s, and 15-year loan terms after which further repayments are d. The initial loan default rate of approximately 10% is reduced by systematic collection efforts. From 2007 a new law for student l aid will be implemented, with loans to cover college fees - an al loan the size of the tuition fee that the student has to pay will be e during the grant and the loan period. Repayment terms for the ill remain unchanged, including the option for students to choose contingent repayment.

ational programmes funded by employer fees add substantially to nent support of tertiary education. Although not all programmes of a on Euro annual fee-based fund are for the education of students, the ers' payments make a major contribution to the overall effort.

owing students to use their government student financial aid at such ons leverages the resources of private, accredited tertiary institutions. some interest among both private institutions and the government in ng the role of the private education sector in reaching the country's education goals, but lacking a tradition of private institutions there is g push to do so.

ulty resources have been strength of Dutch tertiary education for . But a very low percentage of academic faculty in the HBOs have while the number of PhDs being prepared for academic careers, arly in science and technology disciplines, is low (see also Seven). The age of faculty is a growing concern given the need for ments. This is a particular problem in the HBOs given their age e. In the HBOs in 2003, 46.3% of faculty were aged 50 years or OCW, 2006b, p. 85). Age-related problems in the universities are not e but to the extent that there are shortages of staff for the universities worsen the pressures on the HBOs and make it more difficult for

s and offshore recruitment emphasising the need to improve the drawing power of the system (for more discussion of this aspect see Nine). Contributing to the problem of staffing is the current lack of es for young people who may be contemplating faculty careers. This ably could be dealt with in the new law, discussed above.

men are not represented proportionately either in scientific research faculty positions in general, especially at higher ranks. 'The ands ranks quite low in Europe for historical and cultural reasons'. In ly 9.4% of professors in the Netherlands were female compared to n Finland, 16.1% in France, 16.1% in Sweden and 15.9% in the UK. rogress is being made, with the ratio in the Netherlands lifting to 2005. At senior lecturer level 15.7% were women. Among doctoral tes in 2005, 41.5% were women (Stichting de Beauvoir, 2006).

2004 the overall Netherlands ratio of students to tertiary teaching 13.6 students per equivalent full-time faculty was lower than the average of 15.5, though the Netherlands ratio was not especially low uropean context (OECD, 2006a, p. 371).

s

he above account suggests, Dutch higher education has a number of ng strengths. Expenditure per student is relatively high compared to ations in the EU. Student financial aid programmes are generous, unded at approximately EUR 1.7 billion for 2006 (a figure that also subsidies to parents of low-income students 12 and above, *i.e.* in ry education).

provision of information to facilitate student choice is advancing. ebsite *studiekeuze123* looks promising. Using this, students can e bachelor- and master-level studies in all higher education ons. It is comparable to the German CHE system, though at the time sing this review report was more extensive than CHE in the area of market-related data and weaker in relation to research and onalisation. From January 2007 forward, *studiekeuze123* is e in English, providing wider international access to study tion.

ap sum budgeting provides autonomy and flexibility. It is clearly

private sector supplements public effort in several ways. Employers ational funding to the mix. Local and foreign students pay tuition differing rates appropriate to their differing lifetime tax relationships vernment. Private institutions are utilised by allowing students to use vernment student financial aid at such institutions.

sses

eral of the resourcing strengths listed above can be interpreted tly using other measures, as some of the strengths carry with them weaknesses. The Netherlands' financial support of tertiary on as a share of gross domestic product is not as strong as it is per support, and some of the budget and finance procedures have les.

ate funding support, from tuition fees and private contributions, is ghtly below average overall but noteworthy for certain practices and s that depart from the norm. Tuition fees may be much higher for over the age of thirty and for students taking unsubsidized courses , which may raise additional revenues but which also suppresses ation.[5] Additionally, there is a longstanding view strongly held the Dutch that because they pay relatively high taxes, tertiary on, including research, should rely on government financing. This nancing possibilities on the revenue side of budgets.

move toward lump sum, formula budgeting, driven increasingly by choices and implemented without a budget request and negotiation has left many institutions without a sense of what the government or needs from them. As noted in Chapter Three, guidance and nication from the ministries are weak, whether via funding isms or other means. The question of what the government wants for ing support is fundamental to the whole endeavour, yet there is no asoning behind any particular level of funding other than the most social, economic, and tax equity rationales. This leaves tertiary on funding vulnerable to competing claims with more urgent es (global warming and low country flooding, for one), and threatens of the tertiary education system to the point that it may become over time.

ny institutions themselves do not fully utilise the possibilities e to them under lump sum budgeting. Not surprisingly, the basic nent formula is often used for internal allocations among ents and other entities, but rarely do institutions have offices of onal research, strategic plans, and budgeting processes to innovate erentiate on their own. Following student demand too closely at the onal level can lead to self-defeating cycles in neither the institutions' country's interest. For example, the current lack of student interest in science and technology fields can lead to departmental cut-backs, staff and quality, and subsequently less demand, despite the ledged need for higher quality programmes and more graduates in elds.

ying on student learning entitlements so that funding follows student nas its limitations. In the Netherlands, institutions have traditionally differentiated in terms of quality and many offer similar programmes rees. Many if not most students therefore make choices based on hy or friendships or other personal reasons.

eral institutions have ambitious and innovative ideas for programmes ease participation among underserved populations, to increase with secondary schools, to create residential campuses, to offer quality programmes at commensurately higher prices, to articulate mes between institutions, to work with particular businesses and es, and other noteworthy efforts. Despite lump sum budgeting and egulations, these innovations may not be undertaken without higher l from the government either through special grants and ations or through expressly authorised pilot and demonstration mes.

current pilot and demonstration projects are few, unsystematic, and tionable value as experiments from which to make firm inferences ne effects of policies. Findings from current projects will be only al and site-specific. There are no built in research and evaluation ents so as to be able to generalize for purposes of broader entations.

ffing in tertiary education institutions has not received adequate attention. This might be because human resources policy is the nous responsibility of the institutions; though the ministry subsidizes

ment will be difficult. There are few incentives exist to recruit and utstanding faculty.

ital needs at institutions will increasingly compete with operational s current facilities grow older and new plant and equipment are l. Institutions may have more assets on their books by virtue of their own campuses, but such assets cannot easily be converted into s to meet new capital or operational needs.

dent financial aid is available to all and is not focused primarily on ncially needy. Basic grant and transportation subsidy expenditures dents who doubtless will be participating in tertiary education ly compete with financial support for students whose participation on adequate aid, and with adequate financial support for ling teaching and research at institutions.

pite a student loan programme with generous repayment conditions, udents choose to work rather than take advantage of such loans. The so many students feel they have time to work may reflect a lack of ing studies. Interviews with students and faculty suggest that would welcome greater academic challenges. For some students not qualify for low tuition fees at public and private institutions, loan limits are inadequate. The new law improves this situation.

vocational education, some employer groups are dissatisfied with education programmes and prefer students who are trained through grammes of the 2.8 billion Euro fund provided by employers. This s duplication of effort and programme inefficiencies that potentially e reduced by better coordination between public education and .

hough the Netherlands makes good use of its private, accredited education institutions by permitting students to use government nd loans at such institutions, the government lacks systematically d information about these students' ages, ethnicities, incomes, for enrolling, and other important characteristics. Without this tion, resourcing policy options cannot be well informed about a ant sector of the country's overall tertiary education efforts.

endations

es devoted to tertiary education as a share of GDP, to match other
n leaders.

needs of the tertiary education system to which additional resources
isely be applied include widening participation, improving faculty
ations at HBOs, seeking and retaining outstanding faculty at all
nvesting in research and development, and other needs as identified
detail in other sections of this report. The recommendations that
oncern the means by which such needs might be financed.

existing system, which has many areas of strength, probably cannot
ally overhauled, because it has evolved out of Dutch tradition and
d within the limits of political feasibility. But simply adding more
es into current distribution patterns may not get the best results, in
the aforementioned weaknesses inherent in the existing system.

sequently, the Netherlands should consider adding a separate
of funding that is different from the current distributions, in order to
e new initiatives on both the expenditure and revenue sides of
education budgets. Many institutions are ready to address national
by differentiating themselves in terms of new programmes and
me quality, new responses to industry needs, targeting populations
g minorities and adult learners, international education, student
n, and price differentiation. Rewarding these initiatives financially
nove them ahead more quickly and provide additional incentives for
forts.

mechanisms for such incentives could be adjustments to current
-funding coefficients, matching fund programmes, or competitions
national level to address government identified concerns (which
simultaneously address the current problem of 'What does the
nent want?').

ilarly, in research funding the proportion of support provided in the
f performance-related monies and strategic initiative should be
d relative to basic research support. These issues are discussed more
Chapter Three and especially in Chapter Seven.

amounts involved in a new channel of funding may not be as
nt as establishing processes by which additional funds can be wisely
l. New initiatives should be financed only if they are clearly tied to

willing to pay higher tuition fees for them. Some institutions have elationships with industry that could lead to greater private tions to the institutions' unrestricted funds. Although it has not been the modern Dutch higher education tradition to seek revenues from tiated tuition rates and from private fund raising, encouraging long perimentation with increasing revenues from sources that benefit rong tertiary education would help answer questions of where s can and should come from if the Netherlands is to be a top leader European knowledge-based economies. The experience of the United m should be of particular interest in diversifying revenue sources for education.

ate, accredited institutions should not be excluded from participation tive funding channels where they may have an important function they serve a particular population, or have special ties to an industry or provide healthy competition for excellence and cost with public ons.

vernment ministries that deal with tertiary education resourcing be strengthened in terms of data collection, analysis, evaluation, evelopment, and policy implementation.

5. Access and Equity

und

ne Netherlands, there are 534 600 students enrolled in public tertiary on institutions (2004) and an estimated 70 000 students in private, ed institutions. Enrolments have been increasing in recent years both bers of students and percentages of the overall population (OCW, Fig. 2.11, Fig. 2.13; OCW, 2005, Fig. 17). Because of differences in onal systems and definitions, it is difficult to rank countries on ation indicators, but the Netherlands appears to compare tively with Sweden, Finland, Denmark, the United Kingdom, and the United States on many participation measures (CHEPS,

nation aspires to have a tertiary education participation rate of 50% opulation by 2010, and it has outlined strategies to meet the goal 2004b, p. 24; CHEPS, 2005, pp. 26-27). Although there are different calculating participation rates, by most measures the Netherlands is y a few percentage points short of its goal. Projections based on participation policies indicate that the goal may be reached within a out perhaps not by the target date. The strategy to achieve the target three components: increasing recruitment from underrepresented increasing recruitment from upper secondary vocational graduates, easing completion rates.

rent policy focuses attention on full-time participation among the nal 18-30 age group. Students who obtain certain secondary school ations must be accepted into Netherlands' public tertiary education ons. A six-year university preparatory education (VWO) qualifies ittance to an academic university (WO) or to a higher professional

this route may be difficult, owing to the necessity of HBO students ridging programmes that may not be funded, or lack of transparency ssion requirements. All public institutions may grant admission by The Open University has no entrance requirements.

eral student equity issues confront the Netherlands. Completion rates n-western immigrant populations remain lower than for other ons. Full-time students who complete their degrees quickly are d over part-time students. Family income seems to be an important nant of tertiary education participation. Students above age thirty do eive the same financial support as traditional age college students, ng from the Netherlands' lifelong learning effort. The enrolment age of the age 30-39 population is only 2.9, compared to an OECD of 5.6, and of the age 40 and over population it is only 0.8, ed to an OECD average of 1.6 (OECD, 2006a, C1).

ne of the equity issues arising in tertiary education may be the result election and sorting that goes on in primary and secondary schools, difficulty of moving between streams. Although the OECD team review primary and secondary education procedures, the team heard planation frequently from tertiary educators. Mobility between the stream and the HAVO stream - which is a key element if the tions of lower achieving students, their families and their teachers main open, so that the negative potential of early streaming to create egmentation is minimised – appears to have fluctuated in recent dropped to a low level after system restructuring before returning previous levels. The review team detected little concern about this uring the process of consultation. Much later, there is provision for raduates to move to the HBOs, and HBO graduates to enter research- e universities (WOs). However, students wanting to follow these re restricted in their potential areas of study by their prior learning. time we see them many selection moments have passed', as one xecutive said to the review team. Again, the review team detected ncern about rates of mobility or transfer. On the other hand, there is ging evidence that more students are moving between streams at the level. Students moving from HBO to WO totalled approximately n 2000, but 6 700 students followed that pathway in 2004 (OCW, p. 19).

icipation by non-western minorities is a significant issue in the

on institutions to develop plans to increase enrolments of ethnic ons, encouraged HBOs and upper secondary vocational schools to reach agreement on linkages, and encouraged all institutions to completion rates. In 2004 there was an intake of 7 748 non-Western ve Dutch students into the HBOs representing 13.4% of the intake. responding figures for the research intensive universities were 2 242 % (OCW, 2006b, p. 99).

ertheless, the relative participation and completion of non-western remains an issue. Participation growth has indeed moved up in step e growth in the overall tertiary population (Background Report, out completion is still behind (OCW, 2005, Fig. 24). As noted in Three, some large Dutch cities will be majority minority in a few

OECD's Programme for International Student Assessment singles Netherlands among several countries where immigrant populations kedly less well prepared than native students in subjects such as mathematics, and science (OECD, 2006c, p.8).

her, although non-western students are enrolling in greater numbers utch tertiary education system, their success rates in graduating are y lower than that of the native Dutch. In the HBOs, for the cohort ng in 2000, the gap after five years was 20 percentage points. At the -intensive universities it was 10 percentage points. The trend in the ems steady, meaning that progress, if any, is slow. It is noteworthy, r, that fewer non-western minorities are leaving their studies. For e, at the research-intensive universities, the proportion of non- students who leave after five years without awards has fallen from 15% over the past six cohorts. These persistence trends are ging (Centraal Bureau voor de Statistiek, Voorburg/Heerlen 2006-6-

ough the overall participation goal has been set, where students e non-western populations fit in is unclear. The government provides nor programmes in this area (Background Report, p. 54). There to be considerable complacency among the Dutch about raising the ation rates of the non-western populations. The only organisation de a strong point of raising this issue with the review team was ad. The matter was addressed at some length in the report *Bridging*

several occasions the OECD review team asked various groups of administrators, students, government officials, business ations, researchers, and others to describe their vision of what Dutch education should look like within the next ten years. No respondents ed increasing the participation of non-western populations. On a ositive note, the review team visited a few institutions where there nuine enthusiasm for increasing non-western participation. At the *Hogeschool*, an HBO, administrators showed the review team how dapted techniques borrowed from TRIO and GEAR-UP programmes nited States to achieve impressive successes.

s

Netherlands has a strong sense of equity for participants in tertiary on. Tuition fees are set low at public institutions for students ng by age 30 years, regardless of income. Substantial basic grants osidised public transportation are likewise available to all. For from higher income families, this is considered equitable in view of taxes paid. For the lower income student, needs-based grants ent the basic grants. Student loans may be written off for students v subsequent incomes. Government grants and loans can be used at accredited institutions.

noted, participation rates are slowly rising. The 50% goal is being , though participation targets are less important and urgent in the ands than in some other nations.

hin the overall trend, participation by non-western minorities is ng in both the research-intensive universities and the HBOs (though ir share of total enrolments). Their completion rates are also ng.

icipation by women has been substantially improved and parity has hieved on many measures. The percentage of women in doctoral mes is still low but has increased from 18% in 1990 to 41% in the cent compilations (Background Report, p. 50). Continued progress measure is essential if the percentage of women in university s is to increase.

he dropouts from HBOs, a majority eventually succeeds in degree

ptions available in tertiary education, and this will attract additional ation.

sses

Netherlands may achieve its 50% participation target in the next rs (OCW, 2005, Fig. 18) but it may take somewhat longer than and prospects for yet wider participation are limited.

art this is because students are tracked away from tertiary education age twelve, when many have not yet had the time to show the ability nation to succeed at the higher level. Tracking students away at an e makes it difficult for them to change curricula in secondary school.

ther reason why national improvements in participation are difficult ve is that subsidies cut out for students commencing after the age of . Lifelong learners are not given the same financial considerations in their teens and twenties to pursue or continue tertiary education. surprising that, as shown above, the Netherlands' rate of enrolment age 30 is roughly half of the OECD average. This spells trouble for ry that aspires to be a leader in a knowledge-based world, as dge bases are in continual change and leading countries are likely to that provide lifelong tertiary education to their populations.

principle of equity that characterizes the approach to tertiary n is not synonymous with equality of opportunity. For those who e right preparation, are the right age, and have the right kind of situation, there are abundant opportunities within the tertiary n system of the Netherlands. But potential students from rved groups who lack necessary language skills, educational ion, or have no family members to support them, have more y entering the system. The secondary school tracking system, as it y exists, may be an impediment to achieving greater equity.

the extent that the populations that are disproportionately excluded gher education have considerable numbers of talented people who tribute to the Dutch knowledge-based economy, the nation's human es are not being well exploited. The completion rates in higher n of non-western groups are clearly below average. Not enough is one about this.

f completion are largely unidentified because data by ethnicity and are likewise not compiled except for the occasional research study. the ethnic composition of faculty are also lacking (Background p. 56).

e policy consideration is given to special incentives to encourage to study in areas that are important to the country. There are low nts of students in secondary education, but scholarships, loan ness programmes, and similar incentives are not among the ands' approaches for addressing these needs. In areas where there are ny students, such as pharmacy and certain biological sciences, s *fixus* limits have been imposed. Selective student admission into or high quality programmes is not yet widely practiced. However, rtion of greater control over selection (which was raised by the committee) is a desirable reform that could be used to address a of policy goals.

npletion may be difficult for students who do not stay on specified hat are subsidised. To the extent that institutions wish to recover ney must charge higher tuition for certain unfunded programmes, g research masters degrees at the HBOs, for students who have d age limits, and students who attend private institutions which higher tuition. The government grant and loan system does not ze the greater financial needs of such students. The expectation that ses or family members or other sources should pay for their costs ssen overall participation to some extent. The new law on student nd loans improves this situation. It provides for additional loans for maximum of five times the publicly set fee.

endations

ause the Netherlands already has considerable success in many of tertiary education participation, and continued improvements are ay, there seems to be no need to make fundamental changes to an functioning system. Nevertheless, there is a need to follow through ore clearly defined and purposeful measures to implement the that has been outlined for increasing participation.

main area where change is needed is not so much at the tertiary the secondary level. The nation's failure to increase the number of

former problem could be addressed by providing more nities in secondary schools for children and their families to prepare ary education, for example by lowering the barriers between the nd tertiary education tracks. In the end, postponement of the present lection regime seems inevitable, although this is a major change in Dutch society thinks of itself.

cher training institutions could address the latter problem geously. Recruiting more students into secondary teaching and ng the quality of the academic preparation of secondary teachers are eps that government and institutions could be taking more vely. Good academic preparation of teachers in the sciences and ogy is important so that well-qualified teachers can inspire more ry students to pursue studies in these fields. This needs to be done ss of labour market conditions at any given time, or current ic sector strengths or weaknesses in the national economy. Science nology graduates are well prepared for career contributions in many nd are valuable resources in a country whatever its economic ons and strategies.

re is considerable anecdotal information that suggests recruiting condary teachers from underserved minority groups would also raise education participation in these communities. Many individuals, the academic institutions and among minorities, report that teachers from outside these communities are too inclined to track non- minority children away from tertiary education. An additional expressed to the OECD team was that secondary school funding schools that prepare students for tertiary education, making the n more difficult for schools where non-western students are tracked

as the Netherlands seems not to be focusing on increasing the s of students being prepared for tertiary education, the country also only limited efforts to encourage lifetime leaning. Students who do n their degree programmes before age thirty lose both institutional dent aid subsidies. The experiences of other countries indicate that therlands could raise its participation rate by being more nodating to older learners. This could also pay dividends in an ed capacity for work force related upgrading and refresher courses.

could be redirected into programmes that focus on the currently rved, especially those younger and older than the traditional college- lternatively, the Netherlands could allow the basic grant to exist at levels without increase, and place new monies into programmes that er designed to increase participation. This would provide a shift in es over time in real terms rather than being an abrupt change.

. *Labour Markets and Tertiary Education*

ction

Netherlands has an educational system that, viewed in international tive, is strongly oriented towards employer engagement and working the secondary level, a large proportion of students study in nal programmes, while at the tertiary level perhaps the largest share ents in any OECD country study in professionally oriented ons of higher education, *hogescholen.* Tertiary education policies n a national policy framework for *hogescholen* that is strongly towards employer engagement. Additionally, the tertiary system is which demand-driven, *i.e.* in which the number of study places and of study offered are adapted to student choices.[6] Thus, students can to labour market signals - unemployment and wages associated with ve occupations - and to adapt their study choices accordingly.

Netherlands labour market offers graduates of tertiary education atively modest returns on their investment. One recent estimate of *rage* rate of return to tertiary education suggests that it is about - well below the EU-14 average rate of 8.78%, and far below that of ies such as Germany (9.13), Finland (9.98), and the UK (12.25) and Jimeno, 2005).[7] Closer analysis of the Netherlands case s that comparatively modest returns are not due to the high costs of study (direct costs or opportunity costs), but rather the atively modest impact that tertiary qualifications have in the ands - relative to upper secondary qualifications - with respect to the

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ke other demand-driven systems, such as the UK or US, the Netherlands (like ders) has a system in which selection *at the point of entry* is not used. Rather,

ity of unemployment and wages. The private rate of return to ng for those who graduate from a HBO programme is, on average, antly smaller than that of university graduate: an unpublished 2001 y the CPB estimated of the private rate of return for an HBO degree pproximately half that of a university degree (5.5%, as opposed to Canton, 2001).

ial partners, researchers, and public officials have raised questions ne tertiary system's adequacy in addressing labour market needs. nave been frequently voiced concerns that the nation's tertiary on system is not producing a sufficient number of science and ogy graduates, and thus failing to nurture and sustain high ogy growth in the Dutch economy. The connection between ers and HBO sector - while often quite cooperative at a local level - n marked by marked by conflict at the level of national policy. And, ew team itself is not fully confident that the needs of learners are ng met by either sector in the binary system.

Market Connections - Strengths

structure of Netherlands secondary and tertiary education is ed with an unusually strong orientation towards working life. In econdary education 69.1% of students are enrolled in vocational mes of study, a share half again greater than the OECD average . At the level of tertiary study, about two-thirds of undergraduate are enrolled in *hogescholen*. These institutions offer *hoger onderwijs (HBO)*, or higher professional education, the aim of which epare students for working life. This percentage is far higher that of nary systems within the OECD, including Finland (in which 47% of aduate students are enrolled at AMK institutions), or the tertiary of Switzerland (29%), Germany (25%), or Austria (9%).

ch *hogescholen* are linked to working life and employers through gy and instructional staff; through employer participation in the sory boards of HBO institutions; and in advisory relationships with employers and *hogescholen* that extend from the development of mes to their quality assurance. All HBO courses are to have one or aineeship, thus students experience part of their learning in a work-etting. *Hogescholen* instructors are professionals drawn for working

ment of study domain competencies (*domeincompetenties*)[8] and *gskwalificaties*. Quality assessment panels are required to have ers from the related field of work as panel participants. Student narket outcomes are monitored by the *arbeidsmarkt monitor* (labour monitor), HBO-Labour market monitor, an HBO-Council ion that has since 1993 monitored the employment and wages of HBO graduates (ECABO, 2006). Additionally, the Ministry of on publishes the *Studentenmonitor (www.studentenmonitor.nl)*, as since 2000 surveyed student income, student backgrounds, and pics.[9]

relationship between the WO (university) sector and working life is fferent to that of the HBO sector. There are 13 publicly funded universities in the Netherlands offering *wetenschappelijk js*, or scientific education.[10] However, four of these thirteen ties are not traditional research universities with Humboldtian roots; hree are technical universities (Delft, Eindhoven, and Twente), while is a university in the domain of agriculture and natural environment ingen). Based upon visits to the first of these institutions - and ry materials concerning the others - it appears to us that they have connections to employers and working life. Additionally, we must ledge that even research universities with a strongly theoretical and -led orientation offer study programmes are in fact strongly oriented working life – including programmes in traditionally vocational elds, such as architecture, law, and medicine.

sses

ugh the national policy framework appears in many respects to a strong foundation for labour market engagement, concerns have en raised that the tertiary system has a key labour market failure-that to produce sufficient numbers of tertiary graduates in science and ring, or *beta-techniek* students. Viewed in comparison to other countries the Netherlands does have a small share of science and ring graduates, and a declining share, as well. In the 1970's about university graduates were in science and engineering fields, while cades later this level had fallen to about 18%. By way of contrast,

(31.2), Finland (31.2), and France (29.0) all had a much higher science and engineering students among their tertiary graduates.

ery careful review of the available labour market evidence shows no e of a shortage of science and engineering graduates relative to market demand. As the Netherlands Bureau for Economic Policy s (CPB) notes in *Scarcity of Science and Engineering Graduates in herlands* (CPB, 2005), tight labour markets are characterised by high high labour force participation rates, low unemployment, long hours, and high vacancy rates.[11] A review of labour market data that the opposite is the case - that the labour market position of and engineering graduates relative to other tertiary education es has been deteriorating. The wage premium of science and ring graduates from HBO and university programmes relative to that her graduates - and compared to a comparison group of economics es - has deteriorated since the early to mid-1990s.

B analysts speculate that this might be due, in part, to the onalisation of research and development activities, and to the onalisation of the labour market for science and engineering es. Internationalisation leads firms to locate R&D in countries having arative advantage to the Netherlands, and provides Dutch firms with to an international of science and engineering graduates. Both ments have the effect of bring wages for Dutch science and ring graduates into line with the international market for science and ring workers - *i.e.* at a wage that may be lower than that of ng Dutch labour markets.[12]

compared to other systems of tertiary education, the Netherlands is marked by a relatively low degree of differentiation – within its ty system, and within its *hogescholen* sector. Though there are 67 funded tertiary education institutions in the Netherlands,[13] students fly made an offer of two different kinds of education, with very little ay of differentiation with respect to institutional culture and mission, gy, the pacing and flexibility of study, pricing, and peer eristics within each sector.

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ilar results for 1985-1996 are provided by Groot and Plug (1999).

The Foundation for Economic Research of the University of Amsterdam, is

dictably, students in the Netherlands frequently attend a tertiary on institution near the place of residence - a sensible decision in a n which institutions are not seen to differ significantly. The fact that travel greater distances (or relocate) to study at Wageningen ity and Maastricht University - two institutions that are distinctive e of their study programmes and pedagogy, respectively - suggests ch students are not averse to relocation.

versity institutions (providing *wetenschappelijk onderwijs*) may establish a distinctive profile or niche, but they have little scope to within the existing framework of national policy - in which student n and price differentiation are not possible.

re are examples of striking departures from the norm in the ty sector - in which universities have experimented with a shift away nat critics have described as 'factory-style' university education, and a tutorial or seminar model of education - including University Utrecht, University College Maastricht, and Roosevelt Academy. r, these have been permitted a very limited and precarious scope of ment, and enrol only a trace of the overall university student on. There may be too little price differentiation possible under the policy framework to permit this to be a widespread and sustainable f education.

rnatively, universities may wish to alter their balance of graduate dergraduate study towards the former, so as to better support an onal research profile, but in a system in which undergraduate numbers carrying substantial funding implications, and cannot easily ced by other revenue streams, this is difficult.

st often, critics of the national policy framework note, non-selection e uniformity drive university institutions to expand student numbers wide range of course offerings. Many of these newer courses, they o not have the *wetenschappelijk* foundation of traditional academic nes – but provide instead an interdisciplinary education that may be but not strongly oriented toward working life and the development ssional skills.

h respect to the HBO sector, too, there is frustration about ent diversification. Seen from the vantage point of HBO institutions ir sectoral organisation (the *HBO-Raad*) *hogescholen* should be

rguing that HBO institutions should take on neither expanded e education nor wider research responsibilities. Rather, they express to see HBO institutions offer a much wider range of study options - blended work and learning provided on a part-time basis. By onal standards the HBO sector offers very little of its provision on a e or dual basis (15 and 1%, respectively), which fits poorly with its of providing *hoger beroepsonderwijs* to a diverse population of . Additionally, their preference is that the HBO sector focuses on the n of short-cycle (two-year) degree that would provide additional with a set of intermediate qualifications now lacking in the ands education and training system.

esponse to persistent concerns about a lack of differentiation, akers have authorised very limited initiatives permitting pilot mes of differentiation in pricing and student selection. Quite y, the Ministry must operate within the limits of the political e it receives from government, and in the absence of wide political ent only marginal policy adjustments available to a small number of ons are possible. In addition, the Ministry has worked with ers and the HBO sector to introduce a new short-cycle qualification, ill add differentiation to mix of qualifications available to students.

le *hogescholen* instructors should ideally remain in close contact rking life, knowledgeable observers with whom we met expressed that this ideal is frequently not achieved, and that many HBO rs – particularly those who have been teaching a long time - have e contact with working life, and find it difficult to stay abreast of the g knowledge base in their professional field.

HBO system appears to offer far too little *flexible* provision – part-time, compressed delivery, dual learning, or other options. The ands has adult education and training levels (16.9 participation rate those 25-64) that are modestly above the EU-14 average, but well hose of the high-performing nations such as Finland, Denmark, and .

escholen remain closely joined to a local employment mission, and t fully responded to the opportunities presented by European and obal mobility of labour, the norm of European-wide professional ment, and the increased prospect of career changes throughout one's life. None of our discussions with sectoral or institutional HBO

withstanding the binary division of labour in the Netherlands, it is a ife that many institutions charged with providing *wetenschappelijk js* are in reality engaged in higher professional education - in the at their graduates will enter professional life, such as teaching or ring, after the completion of their studies, rather than becoming in universities, researchers in laboratories, or otherwise engaged in scientific work. One unintended consequence of a binary division of may be that research universities and the wider society neglect the ability obligations and performance of research universities.

Netherlands tertiary system has introduced *lectoren*, HBO-based faculty who are responsible for leading knowledge circles *ringen*) within their institution and wider professional community. stimation of the HBO-Raad and the OCW this has been a successful e, evidence of which is furnished by an *effectmeting* (impact ent) undertaken in 2006. The review team, however, takes a t view. We have two principal concerns about the *lectoren* initiative.

First, the processes by which *lectoren* posts are allocated among and within HBO institutions broadly disperse these resources. This limits the capacity of this initiative to build a critical mass of sufficient depth and expertise for HBOs to function more effectively as innovation partners with firms and non-profit organizations.

Second, we are concerned that the *lectoren* initiative has not been fully understood or exploited as a means by which to strengthen and vitalize the educational mission of HBO institutions. During our visit HBO institutions did not present us with a well-developed conception of how *lectoren* (and *kenniskringen*) might be used to as develop teaching and practice-led research - as opposed to research-led teaching. By this we have in mind a distinctive model of HBO research that takes place in an applied setting, that involves undergraduate students, and results not in international peer-reviewed publications, but instead in expert improvements to professional practice, whether new pupil assessments in primary or secondary schools, or newly-customized information systems for the international flower retail industry.

think that the wider social interests of the Netherlands would be well by *some* HBO institutions developing greater capacities as

research (of the sort awarded through Finland's TEKES), through tively awarded sabbaticals for HBO instructors to renew their onal ties and knowledge, and through a career system that evaluates ngly rewards professional engagement.

endations

ght of the challenges described above, we propose three initiatives consideration.

To address the weakness of the tertiary system with respect to flexible provision, we believe that much wider scope for alternative providers needs to be considered. We recognise that an *open bestel* initiative is underway. We think it likely that a sharp shift in flexible provision may require strong competition to traditional tertiary providers – including competition from for-profit providers of higher education that specialise in flexible provision. To this end, we think that a review committee, containing representatives from the OCW and NVAO, but also the Ministry of Economic Affairs and the CPB, should generate proposals for providing maximum market entry opportunities consistent with consumer protection, and explore the means by which to allow the full state subsidy (including institutional operating subsidy and student support) to be applied towards study at such a provider. The purpose of such an initiative is to create a dynamic in the system that is presently lacking.

Second, to strengthen professionally oriented bachelor education - in both the HBO and WO sectors that are in fact providing it - we recommend that collaborative arrangements and couplings of units from both sectors be strongly encouraged by the OCW. For example, while maintaining separate organisations – since these are necessary for distinctive HBO activities such as continuing education, short-cycle degrees, and flexibly accelerated study programmes, and research programmes and graduate instruction in the WO institution - joint programmes in study lines such as business, teaching, public administration and social services could be encouraged. These could be hosted by a separate organisation (*e.g.* college), and bring to bear the comparative expertise of HBO

the NVAO should provide an experimental waiver of regulatory restricts, applying an *ex post* assessment based upon a careful analysis of student evaluations, employer interviews, and labour market outcomes. For its part, the OCW should provide funding incentives (*e.g.* apply the more generous of the funding methodologies used for HBO and WO), and one-off funding, awarded on a competitive basis, to support the costs of such an initiative. In the long run, we anticipate that such an initiative would need to be permitted some opportunity to distinctive position itself in the system - with respect to nomenclature, pricing, and selection, so as to make itself a sustainable quality initiative.

Finally, we recommend that a disinterested and expert third party undertake the assessment of the *lectoren* initiative planned for 2008. In our view, the Netherlands CPB may be best suited to this role.

7. Research and Innovation

und

ee successive Dutch cabinets have expressed their commitment to ɔon strategy and their desire to promote the Dutch knowledge y as one of the most successful in Europe by 2010. This ment has led to the setting of technology and innovation policy . In 2003 the white paper on human resources in science and ring (*Deltaplan beta en techniek*) was prepared as a joint effort of inistries (OECD, 2004b, p. 15). It promotes courses in science and ɔgy at all levels of education and conducts a number of projects in education and innovation in order to promote the image of ɔgy and stimulate regional action plans.

noted in Chapter Three, in September 2003 the cross-Ministry on Platform, chaired by the Prime Minister, was established in order op strategic plans for promoting the Dutch knowledge economy and ng innovation. The mission of the Innovation Platform is 'to en the innovation potential of the Netherlands in order to secure a role for this country in the European knowledge economy of 2010', by re-establishing 'values such as excellence, ambition and neurship'. Like many other government initiatives in this field, the on Platform is intended to stimulate co-operation between business ses and knowledge-creating institutions. Its 18 members are mostly from the business community and knowledge institutions. The vas taken from Finnish cabinet-level Science and Technology Policy . However there is an important difference in that the Dutch on Platform doers not have a permanent legal status.

ecent years R&D investment in the Netherlands has not moved in a

t 1.0% was well below the OECD average of 1.5% (OECD, 2004c; en *et al.*, 2004 and 2006).

her, even in the public sector investment in R&D has declined, from of GDP in 1998 to 0.77% in 2002 (OCW, 2006b, p. 123).

noted in Chapter Three, the Netherlands is strong in basic research an excellent record in scientific publication. Scientific articles per are 6th highest in the OECD (*OECD Science, Technology and Scoreboard 2005*) and in 2002-2003 its average citation score was ove the world average in 2000-2003 (NOWT, 2005, p. 18; see also en *et al.*, 2004, p. 84). The main share of research articles, 69%, is d by scientists and scholars employed at the 13 research intensive ties (NOWT, *ibid.*, p. 17). The Netherlands ranks number three a set of benchmark countries with an average output of almost one ion per researcher per year in the public sector (NOWT, *ibid,* p. 17). sector researchers in the Netherlands are also highly productive, n large part to the publication output of the corporate laboratories of tch multinational enterprises, especially Philips whose central laboratories are located in Eindhoven. The situation may change in re because some of these central laboratories are being dismantled.

Netherlands ranks well on EPO high-tech patent applications. It is after Finland in a comparison of 21 countries (OECD, 2005b), is about average in USPTO high-tech patents granted. Overall, the ands has been assessed to have an excellent record in knowledge but a mediocre one in innovation, defined as successful ment and application of new knowledge in new products and/or es. As noted, this profile is referred to as the 'Dutch paradox'. The on of innovative enterprises that co-operate with higher education ons and with research institutes is relatively low in the Netherlands pared with other EU15 countries, though it has increased antly in the 2000s (OCW, 2004a; van Steen *et al.*, 2006). A smaller innovative Dutch manufacturing companies considers universities portant supplier of knowledge than is the case in Europe as whole compared with 4% average according to OECD, 2003, p. 9).

low level of Business Enterprise Research and Development can be explained in part with reference to the industrial structure of try. First, the share of services within the economy is relatively high share of high intensive R&D manufacturing relatively low. Second

atively small. Despite the excellence of university research the ands is not attracting foreign enterprises to invest in R&D on a nt scale. Some anecdotal evidence provided to the review team also ed that an increasing proportion of Dutch-owned multinational R&D ng place abroad. This would be consistent with the general trend to rnationalisation of R&D, but it is noted that the Ministry of ic Affairs finds that 'there is no evidence ... that large Dutch ses are relocating R&D to foreign countries' (Ministry for Economic 2006, pp. 36-37).

2005 only seven Netherlands-based companies spent more than 0 million on R&D. Philips is much the largest player at 001 million, followed by Azko Nobel (EUR 425 million), ASML at lion and Shell at 239 million (*Top 30 Bedrijfs-R&D un Nederland* ata supplied by VNO-NCW). Table 7.1 lists the top ten companies:

rincipal Netherlands-based company expenditure on R&D in 2005

Company and location	R&D spending 2005
	million EUR
Philips, Eindhoven	1 001
Azko Nobel, Arnhem	425
ASML, Veldhoven	348
Shell, Amsterdam/Rijswijk	239
DSM, Geleen/Delft	163
Unilver, Vlaardingen	140
Oce, Venlo	130
Thales, Hengelo	63
Corus, Umuiden	62
Stork, Naarden	61

Source: VNO-NCW

ugh the share of small and medium enterprises (SMEs) in R&D has d, only a small portion of SMEs conduct R&D. It is estimated that SMEs have their own R&D unit, 28% carry out development, and ply new knowledge and can be innovative (source: Joke van der

004, p. 95). The problem is partly one of relative incentives given the of the economy on other fronts. As long as Dutch entrepreneurs e revenues in successful service-sector businesses with low R&D y they are unlikely to switch into R&D applications involving large sts, long lead times and uncertainty.

national research systems are faced with the challenge of global tion between nations in relation to what has become a semi- ed worldwide research system. The Netherlands faces particular ies in securing national objectives and even in imposing a national emplate. As noted university-industry co-operation in R&D depends small number of few multinational firms that are only partly ands-based. To the extent that these Dutch multinationals expand artnerships with universities around the world there are fewer nities for Dutch universities.

processes of economic, political and educational Europeanisation e a third, regional dimension with possibilities for university R&D. ropean Research Area has catalysed new mechanisms of integration he European research landscape. These include consortia among partners and emerging mechanisms for joint research funding by funding agencies. These trends create new possibilities for the ment of research capabilities in higher education institutions while posing them to additional competition. Further, and significantly he 'Dutch paradox', European projects also provide an important al medium for university-industry collaboration. Here the industry may be located in countries outside the Netherlands and the dge economy benefits may flow outside the country but remain in At this point both university research, and the university-industry ship, are not narrowly embedded in the Dutch national policy but operate within a much wider setting.

likely that in future years the European dimension will increasingly he conduct and utility of research conducted in Dutch higher on, will alter incentives and policy objectives and will prompt a ng of programmes designed to bring universities and industry closer . However, the review team was unable to access data on the extent n Dutch research organizations and enterprises currently participate pean schemes so as to more closely investigate this emerging and mative area. There was no indication that these challenges were

ties. It supports research programmes, individuals, investments in ent and facilities, and travel and international cooperation (van Steen 2004, pp. 19-20). Together with the Royal Academy of Sciences), it is the main source of Stream 2 funding to universities, which as n Chapter Three, is awarded competitively according to academic NWO has proved its ability to think and act strategically so as to higher education research in the Netherlands. It is an important asset.

O recently released a strategy for its activities in 2007-2010, based policy stances: the promotion of excellence, and better utilization of dge to strengthen societal and technological innovation. The plan n doubling the funds of NWO as part of national fulfilment of the goals. The NWO already promotes research excellence and on of knowledge. The allocation of project money by using peer s an example of the former; while the Technology Foundation STW, the NWO, is an example of the latter. The Foundation supports ty research in science and technology. It actively supports dge utilization through users' committees. For each project a users' tee is appointed, which closely monitors the progress of the project vises the STW Board especially in relation to utilization of the . These committees include as members business enterprise tatives. The committees serve as a forum for communication, and lly, as an instrument of utilization, if an enterprise is prepared to the results commercially. NWO will also collaborate with ovem in the new SmartMix scheme (see below).

emes for university-industry co-operation have a dual purpose: to the utilisation of scientific research results in the development of oducts or processes and to enhance the ability to generate new c research questions emerging from innovation activities. The Dutch nent has launched a significant number of such schemes. Some date the early 80s. The schemes are based on different approaches:

Programme-based schemes such as the Leading Technological Institutes, Innovation-Oriented Research Programmes and public-private programmes in specific fields such as genomics and catalysis;

Applied research institutes such as TNO, the agricultural research

ministries. The targeted grant from the Ministry of Economic Affairs has the condition of co-funding by businesses. TNO has 24 knowledge centres in which it co-operates with universities and businesses and 50 university professors work in part-time positions at TNO. There are project-based schemes for R&D co-operation with special attention to SMEs. The group of large technological institutes consists of five specialised organisations conducting applied research and related activities in specific fields. The main funding scheme is contract funding by public and private parties.

Support for knowledge infrastructures, includes a scheme to subsidise knowledge infrastructures in public-private consortia in areas of societal importance.

useful discussion of Dutch schemes to promote public-private hips is provided in a report prepared by the OECD (OECD, 2003). d recent measures to promote public-private co-operation include ix. This is a 100 million Euro scheme that commences in 2007 with ctive of promoting university-industry collaboration. SenterNovem, mediary organization under the Ministry of Economic Affairs and he research council funded by the Ministry of Education, Culture ence, will manage it.

ne schemes to promote the utilisation of research results specifically the improvement of knowledge utilisation in SMEs. These es are noteworthy, reflecting a willingness to find solutions to ns that have been detected. With the so-called "knowledge voucher" an buy research services from universities and from other types of including large firms, 'in order to improve the innovation of es, products and services' (Background Report, p. 27). The value of ge "knowledge voucher" is EUR 7 500, of which SMEs should te one third themselves. As of 2006, there will also be smaller dge vouchers representing a value of EUR 2 500 which stimulates o become acquainted with research institutes ('sniffing vouchers') een *et al.*, 2006, p. 68). At the commencement of the scheme the of vouchers was 100. Following initial demand it was increased to Many employers have been using this subsidy and relations with dge institutes have been intensified' (Background Report, p. 28).

other example is the RAAK-regulation, the Regional Action and n for Knowledge Innovation. This involves EUR 6.8 million per

addition the HBOs have been provided with *lectoren*. This me began in 2001; in 2006 it was funded at the level of .4 million and this will increase to EUR 50 million in 2007. The of posts has grown rapidly, from 18 in 2002 to 207 in 2005 and now ackground Report, p. 12), and the programme has attracted much n. *Lectoren* are to respond to the knowledge needs of SMEs and to research skills and capabilities in HBOs by conducting research to which faculty are recruited on a part-time basis. Though only 5% eaching staff in HBOs now holds doctorates, this proportion will y increase due in part to the *lectoren* scheme. Individual lectors are d to create 'knowledge circles' with the SMEs with which they co- in the projects. RAAK programme money is typically used in these .

lectoren programme appears to be advancing its aims, though it some of concern that there is little cooperation between the *lectoren* research universities. In future it will extend the stimulation of activities in the HBO sector. 'From 2007 onwards HBOs will funds for development and application, or applied research, as a up of payment for the lectoren' (*Background Report,* p. 66).

s

rall scientific performance and knowledge production in the ands is very good, sustained by a culture of excellence and excellent ivity within worldwide research systems. International review tees have conducted periodic reviews of research excellence since 0s and these reviews have helped to shape priorities. Bad reviews d to retrenchment of activities. This has conveyed a strong signal he importance of excellence that has no doubt influenced the ur of individual researchers and institutions. The review team es the value of this kind of quality control and recommends its ation. Likewise national reviews since the early 1990s, conducted so etermine allocations of the label 'excellent research schools', have d the drive to genuine excellence even though no financial ences are involved (Sonneveld and Oost, 2006). Researchers are at strongly motivated by peer respect and esteem as by revenues.

rall, the Dutch research system is relatively internationalised. In

ountries in reasonable numbers and many universities have enrolled ant numbers of foreign research students and offered positions to post-doctoral scholars. This indicates the attractiveness of the Dutch despite immigration barriers. In addition Dutch students and es are encouraged to spend time abroad especially at the postdoctoral

review team formed the view that national policies, programmes rdination in the area of research and innovation might be stronger tional policies in most other areas. Policies on research and on appear to be less subject to short term politicisation, are more o involve effective consultation, and are more likely to make use of d expertise and data gathering in the processes of planning and esign.

sses

nough the overall graduation rate in research degrees in the ands, 1.4‰ population in 2004, is competitive in relation to the average of 1.3 (OECD, 2006a, p. 58), the position in science and ogy is less good. Among 25-34 year olds the number of doctorates in elds in the Netherlands is 0.4‰ population compared to 1.5 in and 0.9 in the USA and the UK (OCW, 2006d, p. 7). The low total s of researchers per thousand workforce suggests a relatively low R&D in the Netherlands. In 2004 there were 5.2 in the Netherlands pared with 6.6 in Germany and France, 10.1 for Sweden and 13.7 for

ddition, 'the Netherlands has not been very successful in attracting ining foreign human resources in science and technology (HRST). y are HRST immigration flows relatively low, but such immigrants d not to stay in the Netherlands, regarding it as a stepping-stone to estinations' (OECD, 2006b, p. 117). (Problems of attracting and foreign faculty and researchers in the context of immigration issues er problems are discussed further in Chapter Nine).

se problems are likely to worsen unless corrective action is taken. iew team noted problems in the career system in universities. Most ers seem to follow a path-dependent course, and there is little scope ntive payments. The nation lacks a robust internal market for talent

employment has accumulated a significant disincentive effect, so enough students studying science at school imagine for themselves a in research. Long lag times before younger faculty have the nity to develop their own research programmes without being ed by a senior professor are another factor. In the USA promising ers are able to shape their own pathways at an earlier stage. The rogrammes, particularly the Veni and Vidi awards, have attempted ess this and are a step in the right direction, as universities are to give some kind of guaranteed position to awardees. However, rgeted initiatives do not sufficiently address the underlying career s facing most young researchers in the Dutch university career

endations

Committee on the dynamics of university research concluded that eraction between the university research system and non-university centres is neither better nor worse than in other – comparable – s', though it also remarked that 'existing distrust between nent, universities and companies' should be eliminated. It suggested niversities should abandon their defensive positions and clearly te their contribution to the future of the Netherlands' (van Steen *006,* p. 28). The OECD team endorses these remarks, which would ant to most national innovation systems.

ough Dutch universities exhibit a strong orientation to excellence ght need to become more strategically focused. There is a need to understand the institutional conditions under which 'peaks' of nce thrive, as opposed to 'mounds'. As suggested in Chapter Three it that universities carrying front rank research capacity across many nes provide the best environment for high performance, especially only in cross-disciplinary activities. In addition such universities can se both the status power and the resource power sufficient to attract d the highest calibre scholar-researchers and doctoral students. This o the potential offered by national policies designed to elevate a umber of universities to a stronger position within the Shanghai Jiao nking.

noted in Chapter Three, increasing the share of research support that

on (Stream 2) within the research funding system be increased so as r excellence and concentration - provided that this increase is anied by a change to Stream 2 allocations so as to ensure that these higher proportion of research costs. At present universities must very one euro in research subsidy they receive in Streams 2 and 3 cents of matching funding from the basic grant (AWT, 2005, p. 13). re 'too successful' at raising funding determined by competition and ce they find themselves matching at more than one to one euro his creates a disincentive to engage in such research, and also the scope for university determined research initiatives including in the humanities and social sciences. These problems are now recognised within government and the research organisations *ound Report*, p. 66).

etheless such an increase in the role of Stream 2 funding should be d cautiously. It is emphasised that if policy is to increase the s on funding based on competition and excellence (in a research system that is already competitive) it is of the utmost importance internal balance between foundation funding and variable funding is ed, in order to ensure that the global strength of Dutch universities in esearch is sustained and enhanced. In the term used by AWT, ty research is most usefully considered as an 'asset', as a form of dge capacity with open-ended long term potential, with utilities that always be predicted in advance, rather than as a set of 'products' 2005). Maintaining this asset requires a solid foundation derived e basic funding in Stream 1. Policy approaches that would reduce the se supported by Stream 1, attempt to prescribe research activity in and/or depart from peer definition of excellence, would be ive.

lly Stream 2 funding would cover the full additional costs of the with a concurrent reduction in that proportion of Stream 1 funding ariable. It would be better if policy moved in that direction. This is portant given that it is unclear that institutions actually allocate all Stream 1 monies to research, as these monies are incorporated into ck grants from government (in that respect the Streams 1-3 formula y overestimates the extent of public support for research). If l pressures increase, a growing part of Stream 1 funding will be d off for other purposes.

ties do not seem to have the strategic capabilities to plan and ent change.

h a change in national research funding should be followed by the ion of similar principles in the internal resource allocation of ties themselves. According to evidence presented to the review present internal allocations typically follow previous allocations. A wards Stream 2 would enable greater concentration ('focus and more precise and extensive rewards for excellence; and the shaping onal division of labour between research universities.

vital to attract talented students to science and technology fields and rs in science and technology in order to help renew the research orce, as well as for developing innovation and excellence. Attracting direct investments in research and development is related to a s ability to supply trained scientists and engineers for research jobs. ovation Research Incentives Scheme developed under the aegis of provides three programmes of grants titled respectively Veni for toral awards, Vidi for early mid career personnel, and Vici for senior ers. The primary focus of the scheme, as well as developing t projects, is to attract younger researchers ones to research careers to hold them before they have obtained tenure (Vidi) and to provide al opportunities for them through the teams established by senior ers (Vici). (van Steen *et al.*, 2004, p. 52). The scheme has been well d and could be usefully expanded.

re are a variety of mechanisms through which university research valorised. These include the traditional function of training el, public-private partnerships, spin-off formation, and patents & g. The review team did not obtain information of the effectiveness of lectual property rights regulations or any systematic information of nation of spin-off firms from university research. However it was hat some institutions house on-campus spin-off firms co-operating e institution. Whether these provisions are effective for promoting formation is not known. However, the review team emphasises the nce of adequate conditions for the utilisation and the rcialization of research results via the formation and growth of spin-s.

noted there are a number of programmes and mechanisms designed

iatives to promote university-private partnerships. It appears that the e has been a system that is not easy or transparent for stakeholders. iew recommends that the system be simplified and made more easily or potential research partners.

way to unify and systematise the policy contribution of the different ents in the system, is to introduce a common set of principles that cut ne different programmes that further public-private partnerships. For e, in Finland large companies can get Tekes[14] funding for their R&D provided that those projects fulfil at least one of the five standard One criterion is cooperation with SMEs or research organisations ities or public research institutes), and another criterion is onal cooperation. This means that government does not have to e a separate new programme every time it wants to advance specific nstead it can tweak the general principles operating across all mes. It is possible that the 'Innovation omnibus' being developed Ministry of Economic Affairs in relation to its programmes in on will help to provide such a framework (van Steen *et al.*, 2006, It is hoped that the 'omnibus' will assist the clarification, ency, coordination and targeting of what has become a complex of support for innovation.

as been expected that the knowledge needs of SMEs should be met by the HBOs. Though there are good grounds to assume that rtnerships between HBOs and SMEs have great potential, the notion E needs will be sufficiently served by HBOs is based on a limited of SME needs. The question suggested here is, have the knowledge f high-tech SMEs been adequately addressed? The formation of ty spinoffs in areas of emerging new technologies is a valuable route isation of university research, and provides an example of SMEs ghly sophisticated knowledge needs. The review team received very ormation on how the system works in this respect.

programme to develop the research capabilities of HBOs through *oren* system is a sensible initiative - provided that these resources are towards developing a research role that *enriches professional on* rather than a pale imitation of basic research in the WOs. er it is important to note that the resources required to properly the research capacities of HBOs are very substantial given that forts almost start from scratch. In this context the *lectoren* system is

s suggests that it would be advisable to target resources and expand em very selectively through a bid-based system oriented to the ment of research in the HBOs. The aim would be to create tive research environments and promote strategic thinking in HBOs. should be an incremental building up of research capacities. In this HBOs should obtain resources and abilities to attract young -trained people to start their research programmes. These mes should have a regional orientation and should be able to attract money. This report will not recommend who should make the s on the competitive bids, but it is noted that a stakeholder ation has structural problems in attempting to perform such a .

noted the Innovation Platform was established in 2003 as a ating body to propose strategic plans in the promotion of the Dutch dge economy. This Platform has been informal and dependent on the l commitment of the Prime Minister. Both Dutch Higher Education Dutch research and innovation system are faced with many difficult s and ambitious objectives related to focus and mass in research, excellence, utilisation of research results, the development of resources and the enhancement of public awareness. There is a ng need for a coordinating platform with sufficient status and to make a difference. Thus suggests that the Innovation Platform e formalized and made permanent.

s in turn would provide a continuing forum in which important ders could discuss, and reach consensus on the different future Some of the reforms proposed here are not feasible in the absence commitment by the stakeholders. There is a need to increase trust t social stakeholders feel towards each other, and a joint forum is an t means towards this end. The review recommends that the original or the Platform, that of the Science and Technology Policy Council nd, be considered more fully. In addition, there is a continuing need er co-operation and coordination within government. This suggests would be valuable to add the Minister of Finance to the other s in the Platform, and perhaps other ministers with an interest in activities.

Quality Assurance and Quality Enhancement

und

fifteen years until 2002, the quality assurance process for higher on in the Netherlands was a system of peer review. This included a essment document prepared by the institution, followed by a site a group of peers organised either by the Association of Universities Association of Hogescholen, depending on type of institution. The of this process on each discipline were made public and the Minister right to step in if there were identified problems that might require intervention. It was argued that this process was focused less on ability and more on the improvement of programmes.

vever, whilst the reports were published, many felt that the on was not sufficiently independent or objective. Moreover possible tions were limited to publicly funded institutions.

he Netherlands introduced the Bachelor and Masters degrees, there hange in the quality assurance process, with a movement towards accreditation of programmes to reflect the wider international The stated aim for accreditation was to provide assurance to all ders in the quality and standards of the awards offered in all higher on institutions delivering Netherlands awards. In part national ation was a implemented in response to the 1999 Bologna ion which identified certain expectations of higher education in including quality assurances processes.

Accreditation Organisation of The Netherlands and Flanders) was established by law as the accrediting body, with responsibility accreditation of all bachelors and masters programmes from publicly

which act as assessors of institutional applications prior to ion to NVAO. VBIs develop their own frames of reference for ing the assessment of each application for accreditation, evaluating ons against the accreditation criteria. One such mechanism ed by a VBI focuses in the first instance on the institution as a whole ooking at the programme to be accredited. Each institution chooses more VBIs to suit its own requirements although for historical HBOs are more likely to ask the National Qualifications Agency which originated with the HBO-Raad, and universities the Quality ce Netherlands Universities (QANU) which developed from the ty branch organisation. There are also organisations that have been s VBIs, some of which are consultancies with experience in other f higher education such as accountancy and management. VBIs are l by NVAO every two years or so to ensure that they are operating iately. NVAO also has annual meetings of all the VBIs to discuss of mutual interest such as the report writing structure.

h programme is accredited every six years. The criteria used to a submission for accreditation are aims and objectives, programme, ent of staff, facilities and provisions.

accreditation process for existing programmes starts with an management review followed by the production of a self-assessment nstitution. This self-assessment is submitted to the VBI along with ng documentation. The institution can ask for special quality to be considered which may result in the report stating that the ndeed has special features. A team of assessors visits the institution e VBI who will meet with staff and students to evaluate the ion.

e the process has been completed the VBI makes a recommendation AO explaining how their view is based on the facts, the VBI's of the facts and the assessment of the degree course on the basis of en accreditation framework and the VBI's own frame of reference VAO guide, 2006)

e a submission has been received by NVAO, it is committed to ng its decision within three months. For new programmes the takes a decision on the macro efficiency as a next step: The funded submissions are sent to the Ministry for a 'macro-cy' review to establish whether or not the programme will provide

est that an institution takes a little longer to develop a submission if it that it will not be successful. It has been proposed that the 'macro-cy' decision for new programmes will be made prior to the ation decision so that the expense of accreditation is not incurred if istry rejects the programme; however, legislation containing this l was withdrawn from parliamentary consideration.

part of the Ministry there is an inspectorate that has responsibility for s of education within the Netherlands. It is mainly concerned with sight of legal matters. The number of officers with responsibility for ducation has reduced since accreditation was introduced, suggesting ed role for the Inspectorate with respect of higher education. r, the Inspectorate does monitor some themes in higher education ar, for example assessment, and also has the responsibility for g in to review programmes or institutions if problems are identified. pectorate produces an annual report that provides a summary of n matters across the whole sector, in addition to publishing al reports on themes, programmes and institutions as appropriate. y in which problems with a particular programme or institution is d was described to the team by the Inspectorate as being as a result nt complaints, staff complaints and/or press reports. In one particular e the impetus for the special report was a combination of complaints ss coverage.

dents have an opportunity to be involved in an annual overview of all mes in tertiary education aimed at future students. For this purpose are asked to complete a questionnaire to assess the quality of their mes in a standard format.

s information, together with information from external peer reviews ed in the process of accreditation, is made available in both Dutch lish, at the website *studiekeuze123*.

lity assurance for research was not changed in 2002. It is organised the 'standards evaluation protocol for public research organisations' rranged by the branch organisations of the universities themselves. otocol obliges all universities to evaluate their research activities ree years. Additionally, an independent external committee assesses arch activities and the outcomes of the external reviews are made

fessional field in which graduates of the course are to be employed vely involved in the internal quality assurance.

he course of its visits to institutions, in discussions about internal assurance processes, the review team heard about how students are d in the internal approval of new programmes and sit on internal committees assisting in the development and oversight of the on. It also heard that employers from appropriate fields are involved e development in advisory capacities. The team was told that many ave adopted the EFQM model of internal quality assurance that is an nt development and has assisted the HBOs to achieve a clearer view vay in which they conduct their business. The universities have not the same model in the same way, but have, over a long period of veloped mechanisms to deal with documentation and data to assist decision-making.

s clear that successful accreditation can provide assurance that ons meet the criteria that cover all aspects of quality assurance es, and assure the coherence of the programme itself. In respect of dards of awards the criterion on 'results' requires institutions to at:

Level has been achieved

- The final qualifications that have been achieved correspond to the targets set for the final qualifications in level, orientation and domain specific requirements.

Results of teaching

- To measure the results of teaching target figures have been set in comparison with relevant other courses.
- The results of teaching meet these targets.

institution is therefore expected to have in place methods to ensure dents achieve the expected outcomes of the course.

vever, the review team was told that there is no recognised and method of ensuring the security and independence of the marking or g process. The tutor who set the assessment can undertake the of student work. There is no expectation that the work might be to second or blind marking as a requirement of the process. The final

tution, rather than making an objective decision based on available e. Whilst there is no evidence that anything other than objective and dent decisions are being made, the perception that there may be ul influences on the final decision-making means that there is a in assuring all stakeholders that the final awards given are fair and ble.

s

re are considerable strengths in the national quality assurance es. The system of quality assurance has evolved to meet needs and in cess is learning from experience. It appears that when new needs he system has the personnel capacity, flexibility and good will to effectively. NVAO and the institutions have now accumulated ant expertise.

criteria that are considered at each accreditation event would appear s on the right areas to provide assurance to all stakeholders that and standards are in place. In 2005, it was reported by the rate – in its overview report - that of the 55 accreditation ions they checked, of some facets that were assessed as cient' in both HBO and universities, the key reasons were: ent and control (18%), measures to improve quality (15%), fficiency of education (13%), volume of staff (9%), and, ship between goals and the programme (9%).

sses

review team heard from institutions that the process was very ve both in terms of the amount of resource that was required to the self-assessment document, and the charges imposed by the VBI. ounts quoted ranged from EUR 50 000 for one programme in a nstitution, to EUR 500 000 for all programmes in one faculty to be ed. The amount of resource to be put into the development of the ation will inevitably vary depending on the programme and the on.

'macro-efficiency' test by the Ministry is a decision designed to

eaningful diversity in a discipline enhances the real options on offer. ities should be free to take the risks of offering such programmes. In lment based funding system it is they who bear the cost of such es if students do not respond in sufficient numbers. In addition, in a dge economy in which participation is universally beneficial there is or saying that the subject matter of the degree might be of lesser nce than encouraging students to higher-level study.

endations

review team heard from higher education institutions that the ation process as originally devised and interpreted up to early 2006 dered overly bureaucratic with too much emphasis on paperwork nan a focus on enhancing the institution or the programme. Action ady been taken to try and reduce the demands of the process and to n the bureaucracy. However, the team also heard that in at least one on there have been identified benefits flowing from the development self-assessment document and the institution considered that the has helped them to evaluate their own provision. Whilst these mental aspects are very important, and a key outcome from the self- ent process, it is likely that the benefits will only be accrued the first process is undertaken. In a different institution the team heard that nad the provision of one school accredited, the financial commitment h that no new programmes would be developed in the current period ditation.

ppears that the benefits to institutions flowing from the accreditation will reduce over time and the associated bureaucracy will outweigh ential developmental benefits. There is also the risk that new me developments will be limited. Experience in other countries that institutions will quickly learn how to achieve successful ations without necessarily addressing all the necessary detail, what should be a developmental process into a formulaic ment.

re has been discussion between the NVAO, the Government and the sector about what is to happen at the end of the six-year ation cycle. The view among higher education institutions is that re should be a move to institutional accreditation. There is much

portantly, members of parliament show little enthusiasm for moving tutional accreditation, and a recent proposal to do so has been wn from parliamentary consideration.

he Netherlands were to reconsider an institutional accreditation he NVAO would want to consider adopting methods different to the rate for identifying particular problems with programmes. Whilst s identified in this way may provide the basis for undertaking eviews, there is a risk that individuals will be encouraged to pursue ar grievances that may not be soundly based. The review team would end that as the processes for institutional accreditation and the rate develop, there would be benefit in identifying more transparent n criteria for generating specific reviews.

en that the accreditation process is expensive for institutions one of ussion points throughout the visit of the review team was how to e the resources available to the sector. There are two areas where ght be benefit in reconsidering the process to address the matter of es.

t, as it is likely that most of the beneficial aspects of accreditation ready been achieved, both in terms of institutional activity and at accreditation; it may be possible to think of moving to onal accreditation.

ond, a further cost-saving element might be reconsideration of the the VBIs. As commercial organisations the VBIs are, quite bly, looking to make a profit from the process. It is compulsory for tutions to pay VBIs for their work towards accreditation and this nevitably comes from public funding. It appears to be an anomaly recipients of profit from accreditation are commercial companies. It worth considering whether NVAO could appoint its own assessors elop a method of assessing institutions not requiring the involvement mercial companies. This would have the added benefit that if NVAO ed assessors directly, the focus of the process could be more clearly n peer review which is more familiar to those in higher education ons. Further, such a procedure would streamline the whole process. d mean that decisions would need to be made only once rather than, nt, twice, once by the VBI and once by NVAO.

ddition, it may be useful to consider the wider involvement of

he country is of a similar standard, and would have the benefit of ıg assurance to staff and students that internal pressures have not nfluenced the committees. Some countries have adopted a system of examiners (for example the UK).

urther enhancement to the internal quality assurance procedures of education institutions could be the involvement of stakeholders in ternal development and review processes. Whilst the team heard that tutions where the provision is largely vocational, employers are d in the development of new awards, there was little evidence to nat external independent input was sought more generally. As ons take more responsibility for their own awards, it may be useful in place an encouragement towards the greater involvement of stakeholders in developing and reviewing awards in all discipline he advantage of such involvement would be to provide an objective what is in place and would spread good practice. Such individuals e specialists from other higher education institutions, from industry, lic services or international experts, all of whom would provide a spective on the way in which standards are set and maintained. The es that would benefit from such an external view could range from evelopment to course monitoring and periodic review, as well as the of other activities such as learning resources.

9. The International Dimension

und

artmental statements and the websites of individual institutions se commitments to comparative worldwide standing, the onal orientation of curricula and the cross-border mobility of . In practice the engagement with internationalisation is not as l as this suggests.

t, as in all national systems, some Dutch tertiary institutions exhibit y or solely local orientation and are not particularly national in focus, e global. In itself this is no problem, being typical of all national on systems. Second, and more problematically, in the national system a more broadly based ambivalence towards the global dimension.

iary education shares the two-sided relationship with the rest of the hat is distinctive of Dutch economy and society. This relationship ped in the building of an internationally competent trading nation the present global era. In the 16th and 17th centuries Dutch onalisation was profound for its time. At that time, cross-border ships were mostly conducted at points of exchange in the national zone, and the central institutions of national life were readily ned from global influences. In the present period, characterised by ic global networking and frequent travel, global connections are not the border but run through the national heartland. This requires an onalisation of a different kind in which varied cultures are in ty within common systems.

legacy of the old relationship with the outside world is ctory. On one hand, higher education in the Netherlands can exhibit

ffectiveness at this time in any nation. Without losing confidence in
vn distinctive Dutch strengths and a sense of core national project,
not just economically open to the rest of the world but fully socially
urally open as well. In that respect they can compete on equal terms
re in the world and have moved ahead of national policy makers to
ze the impact of Dutch education and research on the global stage.
other hand, in both institutions and government there can be real
international curiosity and awareness in which the global dimension
y blocked out.

ne personnel exhibit a 'business as usual' mentality amid the fast
g world environment. When people are in this frame of mind, the
significance of global competition for knowledge intensive
el is not grasped, and opportunities to develop Dutch institutions
re internationally relevant institutions (especially in the HBO sector)
sed. This is one reason why the need to hold local faculty stars or
hem back from abroad is not always recognised, and not enough
is given to how to make Dutch tertiary education more attractive to
faculty and students. Despite the long association with the islands of
ia, and the excellence of Dutch university research in relation to that
omplex and geo-strategically significant nation, Dutch educational
n Indonesia are surprisingly sparse. It is interesting to reflect on the
ack of engagement with Indonesian education to the relatively close
onal ties between on one hand the UK, on the other hand the South
countries, Malaysia and Singapore. However, recent policy
nts, such as *Koers op Kwaliteit*, signal a rising interest in Southeast
nd seven of the county's ten priority countries identified in the
nt are located in South or East Asia (China, India, Malaysia,
d, Taiwan, and Vietnam). Additionally, Netherlands Educational
Offices have been opened in Indonesia, China, Taiwan, and
n (with a July 1, 2007 opening planned for a Thailand office).

global standing of Dutch universities is not a product of marketing.
titutions are modest in promoting themselves internationally as
ons, although some individual academic units and research groups
ective. Rather this global standing has been earned solely by
ial achievements. Dutch research quality is often outstanding and in
on Dutch universities are only short of the peak of universities
de in the USA and UK. Here the longstanding Dutch commitment to
ce in research and scholarship has paid global dividends. Further

of and substantial resources with which to extend international ment. Certainly Dutch universities and to a lesser extent the HBOs ady attractive to foreign students, particularly at the Masters and levels, and could attract many more.

hough Dutch students make good use of the ERASMUS schemes ng shorter term mobility, when both numbers and duration of me are taken into account, about three times as many foreign come to the Netherlands to study as Dutch students going abroad. Europe the Netherlands is the sixth most important destination for s students, well behind Spain, France, the UK, Germany and Italy. e the Netherlands has a presence in the global market in foreign , but a lesser one in quantity terms, being the eighth largest n provider (data supplied by Ministry of Education Culture and). In 2002-2003 an estimated 37 000 foreign students were enrolled c and accredited private institutions. Nearly half were from other n nations, including 22% from Germany, 10% Belgium, 5% Spain the UK. Another 10% were from Morocco, 5% from each of Turkey inam, 4% China and 3% Indonesia. The 2004 proportion of all in degree granting institutions who were foreign students was 4.0%, vas significantly below the OECD average of 8.0% and the EU19 of 6.8%. The growth of foreign student numbers in Netherlands education since 2000 was 52%, the same as for the OECD as a OECD, 2006a, p. 303).

eign students tend to play the largest role in Dutch universities at the duate stage. For example at Technical University Delft in 2005, 53% octoral students (663 persons) and 27% of all Masters students (835) reign students compared to 6% (648) at Bachelor level (data supplied ga Vintges, TU Delft Faculty of Engineering, 1 May, 2006). The of Dutch Masters programmes are offered in English. About 20% octoral students are foreign students (Background Report, p. 86) and n prepare their dissertations in either Dutch or English. Foreign student entry is very significant in some disciplines; for example mately 50% of doctoral students in physics, and in fields such as ics in some universities the ratio is higher.

ereas the Netherlands is successful in holding as knowledge workers udents originating from Eastern European nations after they have ed in the Netherlands, it appears to be less successful than the USA,

-language postgraduate programmes. Tuition charges for EU under 30 years of age are EUR 1 445 compared to a minimum of 250 in the UK. In addition many EU students are eligible for a rebate 1 000 and so pay only EUR 500 for tuition in the Netherlands. Non-ign student tuition charges are much higher in the Netherlands but competitive vis-à-vis the USA and UK. A two-year Masters of in Chemical Engineering at Delft University of Technology, which U citizens EUR 1 445, costs a non-EU citizen EUR 8 150 (data from ervatory on Borderless Education, 2006).

the other hand there is a relatively small number of doctoral hips for foreign students, in part because the predominant model of education is employment rather than scholarship based. Perhaps ty personnel are more reluctant to provide such employment for ers. But competition for outstanding doctoral students is a key aspect global knowledge economy. Here the Netherlands is uncompetitive ed to the United States, where two thirds of doctoral students receive hip support (data from the Institute for International Education, Approximately one quarter of foreign students in the Netherlands are scholarships through an international granting agency, a Dutch me or their home countries. However 83% of these scholarships go peans, with 12% to Asia and just 3% to Africa (data from the tory on Borderless Education, 2006).

ording to the OECD 25.1% of Dutch citizens students who go to study enrol in Belgium, 20.1% enrol in the UK, 15.3% in y, 12.3 in the USA, 5.2% to Sweden and 5.0% to France (OECD, pp. 308-309). Approximately 6% of all Dutch students in both kinds ersity participate in cross-border mobility each year. A significant of graduates, 26% from HBOs and 39% from research universities, ad some kind of foreign experience (Background Report, p. 86) much of this consists of short programmes.

ording to the departmental Background Report (p. 86) an estimated all faculty members in the research universities have foreign origins proportion in the HBOs is just 3%. As in other nations (Enders and rt, 2004) the main internationalisation of faculty is comprised by rm leave, exchange visits and research collaboration. A total of 38% nowledge workers in the research universities had foreign experience revious five years with three fifths spending time in Europe and two

s pattern of faculty visits matches the patterns of co-authorship of c papers. About three papers in five are co-authored in Europe, g 11.3% in each of the UK and Germany, 6.6% in France and 5.5% of Italy and Belgium (OCW, 2004a, p. 87).

ere longer term faculty mobility is strong, it takes the form of the talented researchers and scholars at the doctoral and post-doctoral specially to the USA; it signals a loss of national capacity that will cumulating effects. The Netherlands shares the problem of net brain th many other advanced nations but unlike some other nations is not uch about it. The issue is widely acknowledged but little addressed.

government provides Netherlands Education Support Offices in ountries. A number of universities have established joint foreign ty institutes where persons from the universities concerned can ne country of location, persons from abroad can study Dutch e and culture, and scholars from the two nations can meet and e knowledge and perspectives. The universities of Leiden, Utrecht, en, Groningen and Leuven jointly govern such an institute in Cairo. nstitutes jointly governed by Leiden and other universities are in Rome, Istanbul and Tokyo. Other institute is located in St urg, Florence, Madrid, Athens, Morocco, Turkey, and Syria. Some IBOs are establishing foreign campuses. There was little discussion n OCW or the HBO sector. The British and Australian experience of operations suggests that it is important to establish effective quality d assurance in relation to such programmes. Offshore operations are nature less transparent than programmes on home soil and are not y compared to other programmes. In this case the dynamic of natural ulation, on which much real quality maintenance depends, needs upplementation by formal regulatory process than is the case with utch programmes.

den is one of the most internationalised universities in the world. It ads collaborative meetings, consortia and other initiatives involving order networks. For example the Leiden University International of Asian Studies, which is frequently visited by outstanding foreign , houses a concentration of expertise that has few equals anywhere. parison with comparable centres in the English-speaking institutions tute is particularly notable for the breadth and depth of expertise in e and dialect. Asian Studies at Leiden is only one field in which

ne larger HBOs operate a significant number of international s and linkages, including exchange arrangements and double and several would like a greater freedom to engage in neurial ventures abroad. These international activities tend to at the margins of programmes and the review team saw no evidence npact in organizational cultures. Perhaps the relatively low level of activity in HBOs inhibits a transformative international ment. Cross-border teaching can be decoupled from domestic g, but cross-border research rests on a domestically grounded capacity and cannot be so separated.

growing emphasis on university rankings, particularly the annual ai Jiao Tong University ranking, is leading many countries and ties to focus on acquiring the personnel who drive improved ance in the ranking index, notably Thomson/ISI-classified 'HiCi' ers and Nobel Prize winners. This has generated intensified global tion at the peak of the researcher labour market, a competition by relative salaries, conditions of work and research infrastructure portunities (Marginson and van der Wende, 2007). In addition, in ne Netherlands and many other nations are likely to face shortages of ers and university faculty, given the present demographic 'bulge' of ed over 50 years.

he longer term China and India will be the principal sources of mobile faculty and researchers. Knowledge industries in these will be competitive not just on price but on quality. The USA has to be a welcoming and effective recruiter of students and faculties ese countries, and other nations are smoothing the pathways to entry. ely that the Netherlands will be placed at a serious competitive ntage unless the problem of immigration blockages is resolved, and ess a more enthusiastic attitude develops in relation to recruitment ia.

ing the period of the country visit in April/May 2006 the review as informed that previous bottlenecks in the migration pathways of lled knowledge workers had been opened up by regulatory changes equirements so as to make the Netherlands more attractive to foreign c personnel. It was noted that the Innovation Platform had been the for the policy change through its report on *Borderless mobility for lge migrants: how can we get talent to come to the Netherlands*

ertheless it appears that the changes made so far have not been far- enough to overcome the problem either in relation to foreign or foreign faculty. Policy practice continues to be primarily dictated ionally protectionist outlook and the modus operandi of immigration ies, rather than by the more global and innovation-oriented tives of universities and research networks. The difficulty of turning status into permanent immigration status inhibits the potential of nstitutions to recruit both foreign students and faculty, especially n-European countries.[15]

2006 OECD economic survey of the Netherlands emphasized the reforms 'to facilitate immigration of knowledge workers further by ing a points system for immigrants, as in Canada, Australia and ealand, and by relaxing work permit rules' to permit foreign PHD to stay on after graduation (p. 127). The issues are widely ledged within the Netherlands itself. During the visits of the review research agencies the comment was made several times that ant sectors of the Dutch population were not aware of the pressures national competition and their manifestations in education and . The Background Report (p. 89) also alludes to these problems. than improvement; visa processing times are often uncompetitive s the UK; etc.

es cited to members of the review team suggest that in some cases at reign faculty and doctoral students of importance have been denied the basis of judgments grounded less in the specific case than in formulae based on country of origin. Some in government in the ands evidence concerns that opening the door to high skill migrants an admitting their dependent family members. This is an example of the wrong approach to the global knowledge economy. It is tic to attempt to attract knowledge workers while dividing them eir dependents. If the Netherlands intends to provide a secure long me for people of talent from around the world, then it needs to more effectively as the provider of a suitable living environment families.

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ng a 10-day research programme in September 2006 in one of the leading arch intensive universities, a programme conducted by one member of the ew team but separate from and five months subsequent to the visits for the

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the Netherlands institutions are internationally minded. The nce of the worldwide environment is acknowledged and this is o Dutch culture.

re is a formal policy commitment to opening up institutions to participation by foreign students and to increasing revenues from this and institutions have a growing financial incentive to increase student recruitment. In the 2006-2007 academic year there were nglish-language programmes at all levels. The 1 May 2006 adoption ode of conduct regarding international students in the Netherlands' s signatory institutions to providing adequate information to onal students in relations to programmes, fees, housing and other hat in the past have been the cause of complaint (information from ervatory on Borderless Education, 2006).

Netherlands constitutes a relatively safe, secure and often attractive nvironment, with excellent urban transport, in which the principal language, English, is widely used. The Dutch fee structure is y competitive, for example in comparison with UK costs for foreign . There are some working opportunities for foreign students.

research universities are relatively strong in academic capacity and ment and in that respect capable of attracting foreign faculty and ality foreign doctoral students, providing the incentives and the ry environment are favourable. They have some of the conditions ry to compete strongly for mobile labour in the more competitive nvironment now emerging.

sses

re is no systematic monitoring at departmental level of the patterns y of foreign doctoral students, post-doctoral scholars and other

artmental commitment to promoting and administrating foreign entry is relatively weak compared to competitor countries, notably Though there is some interest in raising monies from international fees, there is no evidence that internationalization of the student

onal student recruitment - such as the US, UK, and Australia - that not yet in the Netherlands a similar environment and culture that the promotion of foreign student recruitment, retention and success.

scope for foreign student recruitment is limited by the use of Dutch anguage of instruction in first degrees; and by the weight of the vithin Dutch higher education, because all else equal, a professional egree, with its strong focus on local employment is less attractive esearch university degree from other nations.

machinery for assessing and recognizing foreign universities and qualifications is cumbersome. The slow development of cross-ooperation in quality assurance is one inhibiting factor here.

ration opportunities are a key driver of internationalization, in to both students and faculty. In the USA, UK and Australia short-dent migration often becomes long term or permanent settlement. In pect the Netherlands provides a less attractive potential home to c personnel than do the English-language nations. Potential c immigrants face higher official hurdles than in some other nations. ite students face more cultural barriers in the Netherlands than they

ne competitor countries and their higher education institutions place emphasis on the value of diversity and the benefits provided to the y the presence of foreign students and migrants.

dence provided to the review team indicated that the overall entry of doctoral students, post-doctoral faculty and more senior faculty was at inhibited by lack of opportunities to establish, and/or ease of ning, both migration status and faculty careers. This is a case-by-case Most such anecdotes concerned immigration delays affecting senior t some younger people are also affected. These factors retard the of the Netherlands to compete for globally mobile intellectual especially at the top end of the global market. Further, Netherlands cales and total remuneration are uncompetitive vis-à-vis the USA. In ence of more flexible arrangements, again this decisively inhibits ent of the highest calibre faculty. There seems to be little concern is problem.

re is no systematic monitoring at departmental level of the patterns

tes, which compares unfavourably with some other countries. While broad awareness of net 'brain drain' there is little evidence of or forward thinking in relation to the issue.

ch universities are prevented from offering a full qualification on soil. This prevents deeper forms of international engagement, such -alone or partner-based campuses in other nations, which can also be platforms for other activities such as foreign student recruitment into nerlands, research collaboration, and links to foreign industry.

endations

the most part policy makers understand the challenges and are institutions in the right direction but there are questions about and impetus. Incentives are not strong enough and machinery is cking. International affairs are too readily marginalized in national tration. There is a reluctance to lead the nation through (and if beyond) the present anxieties about immigration even of high professional migrants, and these anxieties are inhibiting the global eness of the tertiary education sector.

quantitative and qualitative growth of international openness and ment are essential, especially but not only in the research-intensive ties. Higher education is now globally referenced throughout the nd both global cooperation and global competition are increasingly ial in shaping national systems and institutions (Marginson, 2006).

ch of this international engagement is and should be pursued at the on level, and within institutions at the discipline level, particularly in research universities. It should not be over-regulated. It is important ues more transparent and is coordinated where appropriate within the ork of overall national and institutional strategies and priorities. Here ncipal potentials for national policy lie in framework-building s (quality assurance systems, benchmarking, research funding mes, national programmes of doctoral scholarships for foreign , etc.) coupled with strategic subsidies and other interventions that gned to stimulate particular initiatives and remove blockages.

siderations of global strategy now take in relationships with other ons within Europe, relationships through Europe with the rest of the

the development of a European-wide classification system in which ngths of Dutch institutions will become more visible.

rnational panel members should be routinely included in programme ation and in research performance evaluation by institutions and nes. Global sensibilities and engagement can be systematized by benchmarking against Europe and the entire world, on the basis of ne and the entire institution. It is important to develop more cated and complex instruments for global comparison than those by the existing systems of global university rankings. Special n needs to be given to devising methods of cross-border arking of HBOs with comparable institutions.

rnationalisation strategies in relation to personnel movement are to operate on the same scale, generate the same levels of income, or nedium for the internal transformation of university culture, as has vident in the UK and Australia. Because the prospects for fully rcial development are limited, internationalisation will need to be to a greater degree than in those nations. As in the USA, much of it dominated by subsidized research relationships rather than by -raising.

outward looking engagement of Dutch institutions in Europe and re provides the starting point for more balanced two-way flows of nd ideas than is the case in the English-speaking nations.

fuller and more consistent opening of migration opportunities to ill knowledge workers would assist internationalisation goals and nent faculty quality in both HBOs and research universities, g that faculty career opportunities are expanded. The labour market ce is a global one. Given the intrinsic excellence of Dutch research olarship coupled with the reputations and traditions of the leading ties, the Netherlands can aspire to a national R&D base capable not retaining local talent but attracting foreign and foreign-trained er talent, and providing a magnet capable of attracting not just multinational companies but foreign companies. Special attention o be given to potential recruits from Asian nations given their aphic weight, the rapidly developing research capacity of these and the potential global mobility of their personnel. Half of all rder students, ands the overwhelming majority outside Europe, are

resence is not as strong as in the English-speaking countries or y. It would be a mistake to leave implementation of the official largely to higher education institutions.

foreign student market continues to grow, increasing from ion students worldwide in 1990 to 2.7 million in 2004 (OECD, p. 287). A modest expansion of international revenues is a realistic cused in areas where Dutch education is relatively strong. Goals for student recruitment should be less open-ended and more limited than , but pursued with greater vigour and consistency at departmental itutional levels.

Netherlands should target the quality end of the cross-border higher on market, not the mass high volume end; partly so as to use foreign ient to promote the knowledge economy credentials of the ands and its higher education institutions. This suggests that the main for recruitment should be academic Masters and doctoral mes. There is some scope also for recruitment into English language onal Masters programmes in selected industries in both research ties and HBOs. In addition the number of Bachelor-level mes in English should be increased.

adly the Ministry has adopted this set of priorities already. It is and is on the right track but needs to lift the status of onalisation within its own operation and to pursue policy objectives to internationalisation more systematically, including promotional s on behalf of Dutch tertiary education. The Background Report at 'apart from actually being world top, establishing a reputation as a and therefore interesting nation is terms of education and research is important' (p. 88). Government could do more to use diplomatic s abroad to facilitate promotion and foreign student entry, and to se Dutch research achievements and the potential for collaboration. esence is also important.

entials for jointly badged degrees offered in collaboration with able foreign institutions, and the 'twinning' of programmes with institutions in which the first part of the degree is provided outside herlands could be further explored. Dutch institutions should be ed to operate offshore campuses, provided that these campuses and ogrammes are fully subject to national accreditation and quality ce requirements.

10. Conclusions

Netherlands must strengthen the capacity of its tertiary system, g it more responsive and flexible, for a more European and global and more fully suited to integrating first and second generation ant populations into the human capital and culture of the nation.

national system has great strengths in the face of these considerable ges. It is well understood by its practitioners, professionalism is ned at all levels, and quality assurance processes are functional. Both arch-intensive universities and the HBOs are intrinsically healthy, uable traditions, competent personnel and 'thick' and active ion to the society and economy they serve. Both the HBO and the university sector could be expanded to meet growing domestic foreign demand. The research-intensive universities are strong in search, the bedrock of any research university system. More through vn voluntary evolution than through the system of national policies, isms and incentives, some Dutch universities are not far below the the best universities in the world and have the potential to attract students, faculty and international corporate investment in R&D ne right incentives are in place. The HBOs have a deep practical ment to serving communities and industry and to bringing education ork closer together. In general, institutional leadership and ment are competent and in the research universities there is a t ethos of self-regulated productivity and a widespread and genuine of research excellence.

vever, for reasons outlined in Chapter Three, Dutch tertiary on is relatively weak in national priority setting, in the identification ging problems; and the long-term approach to policy. This inhibits ctive response to the global challenges and to the more culturally resident population with its special educational needs. The national

ent. Internal departmental coherence is insufficient. By comparison rm responses to political guidance are well developed.

ur view the key challenges facing the system in the immediate and m future include:

The slow rate of growth of public and private investment in higher education and research, compared to most other OECD countries, and decline in the GDP share;

The slow rate of improvement in participation levels and some decline in the global competitiveness of Dutch higher education in relation to this indicator;

The need to lift educational and social achievement among immigrant 'non-Western' populations;

The need to develop student selection and student choice-making as policy instruments; and to devise a more effective student-institution relationship than that constituted by automatic entry, ballots, enrolment over capacity levels, and end of year one selection on the basis of failure;

The need to develop mechanisms that will focus effectively on improving excellence in teaching;

The potential of institutional diversity within the traditional sectors and across barriers such as WO/HBO, public/private and local/foreign; the need to develop a more flexible and needs-driven binary system; the need for greater variation in programmes on the basis of time length and price; and the strategic question of whether and how the Netherlands might develop more globally competitive research universities;

The need to establish a framework of conditions and incentives that will attract foreign students (especially doctoral students) and faculty of high quality, both to augment the Dutch knowledge economy in the present and provide part of the basic human infrastructure in the future, given the ageing of the academic population and the problem of 'brain drain' to the USA.

positive message here is that there is very considerable scope, in

support should be enhanced. However, there are also high quality s and programmes (see Chapter Seven). Substantial efforts have been o connect industry and university research. Here the continuing paradox' owes itself not so much to weaknesses in innovation policy e difficulty of the task. Much can be achieved by resetting incentives ivities on the supply side, for example so as to attracting more R&D investment. But the level of business R&D in the Netherlands pends on the demand side (OECD, 2006b, p. 18). It is partly a of industry structure, including the small number of major te players, and the relatively small size of the high-tech sector within nomy.

haps the major R&D players in the corporate sector could do more to ge utilisation in Dutch universities and institutes and foster a ing SME subcontractor network. The review team would need more thoroughly investigate this aspect. But we note that there may be or a more active policy here. Dutch government support for major multinationals might more strongly encourage corporations to te with Dutch nodes of the global knowledge economy. At the same the longer term it is likely that the research and innovation system ve a greater scope to expand its role in serving European and global s than its role in serving Dutch business alone. This raises questions dentity of policy – European? Dutch? a combination? – that are ing in themselves, but beyond the competence of this review to

re might be more scope for expanding university-private sector links emerging knowledge-intensive companies than large companies. ough 'the Netherlands also has a relatively small share of high-tech dium high-tech sectors in the total economy' (OCW, 2004a, p. 95).

ownside of the 'Dutch paradox' is that this difficult policy problem tured a great deal of governmental energy while other issues have gnored. In policy debate certain issues can take on symbolic nce that moves beyond the content of the issues themselves. Debates rituals enabling key actors to make public noises that position ves in expected ways, rather than giving consideration to different l solutions. The same kind of comment could be made about the on the binary line, and the public debates associated with these. less important than whether the HBOs provide funded Arts degrees

flip side of a stable higher education system with vital traditions is nge is more likely to occur through evolution than revolution. The team finds that the intrinsic culture of higher education in the ands embodies certain fundamental weaknesses but it will take some these issues to be overcome or even to be effectively addressed, they are deeply rooted.

entrenched problem is the national habit of treating higher on as exclusively a young person's preserve. Another and even more ental problem is the tendency to manage diversity through tation and path dependence; rather than through pluralism, mobility tiple opportunities within common systems. For a review team from the Netherlands this aspect was disturbing.

segmentation of the school age population leads to neatly ing educational progressions, especially for students in the academic It also allows high quality to be secured in the academic stream at e overall cost, constituting the 'value for money' referred to in the y's Background Report. But there are many thousands of other who might have benefit from an academic education who are d away from it at an early age, and do not find their way back. of limited opportunities to track upwards and the absence of an ucture for lifelong learning at scale there are few second chances. Of rable concern are the relatively high presence of immigrant families ottom stream at school, and the relatively low rates of completion students from the same families in higher education. There is a real that education is entrenching serious social divisions along cultural

there is also a positive opportunity here. Higher education could key role in integrating immigrant communities more effectively into society: by providing an equitable framework of opportunity, by ng and respecting cultural diversity in the classroom and outside it, practising tolerance and respect for religious freedoms.

eneral the tertiary system is not sufficiently inclusive. Equity and considerations are important in Dutch policy but are more likely to ed within the different segments and sectors, rather than between d across the whole population. Aggregate participation goals seem ss important in the Netherlands than in many other countries. There ficient urgency about the 50% target and moving beyond it. Perhaps

to compare Dutch levels of participation in higher education with ations as Canada and Korea. Is academic ability more broadly ted in those countries than in the Netherlands? We think this , given the high level of performance Dutch youth demonstrate in A assessment.

other example of the tendency to handle diversity via segmentation erarchy, rather than inclusion and universality, is the present ration of institutional diversity. Rather than encouraging a broad f horizontal diversity the system has been managed in terms of a firm ine (again, difference is expressed hierarchically) with problems of y policing, plus uniformity within each separate sector. There is wrong with the binary principle but this is not the only possible diversity. Further, the instinctive preference for uniform systems experiment in modes of delivery and fee levels.

ne longer run it may be that the Netherlands will be better served by system of tertiary education with much more scope for variation in , programmes and modes of delivery, with individual missions d in government determined national need coupled with veness to students, employers and localities. At the least it will be y to move towards greater flexibility and cross-sector collaboration, nland. But the final resolution of these issues is a distant prospect at ge. Meanwhile it is important to make the binary divide work – to e wider needs of the nation rather than the aspiration of any ar institution or sector - rather than it being continually eroded. The the WOs in basic research and doctoral training constitutes the l dividing line between research-intensive institutions and HBOs.

re is the evident need to develop stronger data instruments in many c areas such as participation and success by ethnic group and by onomic status; the cross-border mobility of faculty and doctoral moving in both directions; institutional revenues off budget, etc. It hat 'an army marches on its stomach' – and it is equally true that a nent department moves on the basis of data. It gains its policy edge s capacity to imagine the system in complex sociological and ic terms, to predict outcomes, and to fashion well-understood for government and institutions to consider.

way of developing this understanding is through working experience
nersion in the institution itself. In many countries this is achieved by
uitment of senior Ministry staff from higher education institutions, a
that does not appear to take place in the Netherlands. We believe
W policymaking for higher education would be strengthened if its
ssessed a deepened understanding of and connectivity to higher
on institutions. This can be accomplished through the recruitment of
no have worked in tertiary institutions, devising plans of flexible
nent, even of a few months' duration, or by other means.

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Appendix 1: The OECD Review Team

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onen is a Head of Unit at the Research Institute of the Finnish Economy, worked since 2001. She has previously held positions with the Technical tre of Finland (Chief Research Scientist, Director of VTT Group for tudies, 1995-2001) and the Academy of Finland, the funding body for cientific research, largely conducted in universities (1974-1995).

son has been Professor of Higher Education in the Centre for the Study of tion at the University of Melbourne in Australia since 2006. He was ofessor at Monash University in Melbourne and Director of the Monash esearch in International Education (2000-2006). He is an Australian ellow and Fellow of the Academy of Social Sciences, Australia. He served

s served the US state of Nebraska as Director of the State Office of Programming and as its Chief State Fiscal Officer; has was formerly the a state association representing private colleges and universities; the ector for the United States Senator for Nebraska; and served in the US ucation Sciences, with responsibility for policy analysis and evaluation.

o, Analyst, Education and Training Policy Division, Directorate for

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ordinator for the Netherlands

coordinator for the review was Marlies Leegwater senior policy advisor at f Education, Culture, and Science, Directorate for Higher Education.

kground Report Authors

and Jurriaan Berger of the firm EIM authored the Country Background e Ministry of Culture, and Science (OCW), published October 2006 as te studies Hoger Onderwijs en Wetenschappelijk onderzoek No. 124; tic Review of Tertiary Education, The Netherlands.

Appendix 3: Programme of the Review Visit

ril 24

nistry of Education (OCW)
Innovation Platform
Ministry of Economic Affairs
Ministry of Finance
HBO-Raad

ril 25

VNO-NCW (Confederation of industry and employers, Standing Committee on higher education)
Aob Utrecht
TNO, Delft
NVAO Den Haag

April 26

Inspectorate for Higher Education, OCW
NWO (Research Council) and AWT (Advisory Council for Science and Technology)
VSNU (Association of Universities)
ISO and LSVB-student organisations

pril 27

Hogeschool InHolland Den Haag (central management)
HBO-ICT academie Zoetermeer
Mr. Chang, Chair of Chang Commission
Haagse Hogeschool

28

University of Utrecht
Tilburg Fontys and Avans hogeschool s'Hertogenbosch

y 1

TU Delft
Hogeschool voor mode management
InHolland Den Haag
Free University Amsterdam
Hobeon Den Haag

y 2

Technical University Delft
MKB Nederland
Briefing OCW

4: Comparative Indicators on Tertiary Education

	Netherlands	OECD mean	Netherlands' rank[1]	% to OECD mean[2]
S				
population aged 25-64 with ifications (2004)				
B – Total	2	9	22/24	22
Males	3		22/23	-
Females	2		21/25	-
A– Total	26	19[i]	3/30	137
Males	28		3/30	-
Females	24		4/30	-
earch programmes – Total	-		-	-
Males	1		-	-
Females	-		-	-
population aged 25-34 with ifications (2004)				
B	2	11	22/24	18
A and advanced research	32	24	2/24	133
population aged 55-64 with ifications (2004)				
B	2	6	13/24	33
A and advanced research	22	13	2/24	169
population aged 25-64 with ifications – time trends				
	20	18	11/21	111
	29	25	11/30	116
population aged 25-34 with				

	Netherlands	OECD mean	Netherlands' rank[1]	% to OECD mean[2]
ears in formal education	11.2	11.9	23/30	94
ates in tertiary education				
raduates divided by the number ants in the typical year of				
A education	76	70	6/21	109
B education	-	62	-	-
earch programmes	-	67	-	-
ration of tertiary studies (in varies)[4]				
ducation	-	3.94	-	-
B education	-	2.38	-	-
A and advanced research	5.24	4.42	7/24	119
aduates by field of study[5]				
A				
cation	18.2	-	7/27	
anities and arts	6.5	-	23/27	
al sciences, business and law	34.9	-	13/27	
nce	5.1	-	24/27	
neering, manufacturing and truction	10.5	-	17/27	
culture	2.1	-	12/27	
th and welfare	20.3	-	5/27	
ices	2.4	-	15/27	
known or unspecified	-	-	-	
l fields	100	-	-	
B				
cation	-	-	-	
anities and arts	-	-	-	
al sciences, business and law	-	-	-	
nce	-	-	-	
neering, manufacturing and truction	-	-	-	

	Netherlands	OECD mean	Netherlands' rank[1]	% to OECD mean[2]
earch programmes				
cation	-	-	-	
anities and arts	8.7	-	23/27	
al sciences, business and law	17.2	-	12/26	
nce	19.6	-	8/27	
neering, manufacturing and truction	17.5	-	9/26	
culture	8.5	-	7/26	
th and welfare	28.4	-	5/27	
ices	-	-	-	
known or unspecified	-	-	-	
l fields	-	-	-	
duates by field of study[5] per ation (2002)				
A				
cation	9.73	-	7/27	
anities and arts	3.47	-	2/27	
al sciences, business and law	18.70	-	10/27	
nce	2.75	-	2/27	
neering, manufacturing and truction	5.64	-	16/27	
culture	1.11	-	10/27	
th and welfare	10.88	-	7/27	
ices	1.27	-	14/27	
known or unspecified	-	-	-	
l fields	53.58	-	15/27	
B				
cation	-	-	-	
anities and arts	-	-	-	
al sciences, business and law	-	-	-	
nce	-	-	-	
neering, manufacturing and truction	-	-	-	
culture	-	-	-	
th and welfare	-	-	-	
ices	-	-	-	
known or unspecified	-	-	-	

	Netherlands	OECD mean	Netherlands' rank[1]	% to OECD mean[2]
earch programmes				
cation	-	-	-	
anities and arts	0.14	-	19/27	
al sciences, business and law	0.27	-	13/26	
nce	0.31	-	18/27	
neering, manufacturing and truction	0.28	-	10/26	
culture	0.14	-	6/26	
th and welfare	0.45	-	6/27	
ices	-	-	-	
known or unspecified	-	-	-	
l fields	1.60	-	12/27	
ratio and educational 2004)				
25 to 64-year-olds in as a percentage of the ed 25 to 64				
dary education				
es	79.6	72.1	9/30	110
ales	51.5	48.9	13/30	105
lary education (ISCED 3A)				
es	86.5	81.6	6/29	106
ales	73.9	65.3	6/29	113
ry non-tertiary education				
es	-	-	-	
ales	-	-	-	
ation, type B				
es	85.4	87.6	20/26	97
ales	74.5	77.2	10/26	97
cation, type A and advanced rammes				
es	88.7	89.1	17/30	100
ales	75.8	79.1	17/30	96

	Netherlands	OECD mean	Netherlands' rank[1]	% to OECD mean[2]
ratio and educational 2004)				
30 to 34-year-olds in as a percentage dary education				
es	88.1	80.2	6/22	110
ales	60.6	51.2	5/22	118
lary education (ISCED 3A)				
es	-	87.0	-	-
ales	-	167.8	-	-
ry non-tertiary education				
es	-	89.3	-	-
ales	-	75.9	-	-
ation, type B				
es	95.5	93.4	9/23	102
ales	96.8	78.5	16/23	123
cation, type A and advanced rammes				
es	95.5	93.6	5/23	102
ales	89.7	82.1	2/23	109
ent ratio and educational 2004)				
25 to 64-year-olds who are as a percentage of the ed 25 to 64				
dary education				
es	5.8	10.1	18/29	57
ales	4.4	11.0	25/29	40
dary education (ISCED 3A)				
es	3.8	5.7	22/28	67
ales	3.7	7.2	23/28	51
ry non-tertiary education				
es	4.2	-	6/17	-
ales	2.7	-	14/17	-
ation, type B				
es	2.6	3.7	20/25	70
ales	4.6	4.5	9/24	102

	Netherlands	OECD mean	Netherlands' rank[1]	% to OECD mean[2]
ent ratio and educational 2004)				
30 to 34-year-olds who are as a percentage				
dary education				
es	6.0	11.1	18/22	54
ales	8.8	15.2	14/22	58
dary education (ISCED 3A)				
es	-	6.2	-	-
ales	-	8.7	-	-
ry non-tertiary education				
es	-	8.1	-	-
ales	-	6.8	-	-
ation, type B				
es	2.9	4.5	15/23	64
ales	3.2	5.4	15/23	59
cation, type A and advanced rammes[ii]				
es	2.6	3.4	15/23	76
ales	2.1	5.1	21/23	41
population not in the labour ucational attainment (2004)				
25 to 64-year-olds not in the as a percentage of the ed 25 to 64				
dary education				
es	16.6	20.0	12/22	83
ales	45.3	45.4	13/22	100
dary education (ISCED 3A)				
es	-	14.5	-	-
ales	-	30.1	-	-
ry non-tertiary education				
es	-	9.7	-	-
ales	-	22.7	-	-
ation, type B				
es	10.3	8.9	9/24	116
ales	20.7	18.6	6/24	111

	Netherlands	OECD mean	Netherlands' rank[1]	% to OECD mean[2]
population not in the labour ucational attainment (2004)				
30 to 34-year-olds not in the as a percentage of the ed 30 to 34				
dary education				
es	6.3	10.1	14/22	62
ales	35.5	39.9	14/22	89
dary education (ISCED 3A)				
es	-	7.3	-	-
ales	-	25.9	-	-
ry non-tertiary education				
es	-	2.8	-	-
ales	-	18.3	-	-
ation, type B				
es	4.0	3.2	8/23	125
ales	20.7	16.9	5/23	122
cation, type A and advanced rammes				
es	2.1	3.5	9/23	60
ales	8.4	13.5	21/23	62
tertiary graduates aged 25- upper secondary graduates 2002) (upper secondary = 100)	148	-	-	-
tertiary graduates aged 30- upper secondary graduates 2002) (upper secondary = 100)	147	-	-	-
elative earnings of tertiary ged 25-64 (upper secondary ondary non-tertiary education				
	141	-	-	-
	148	-	-	-

	Netherlands	OECD mean	Netherlands' rank[1]	% to OECD mean[2]
OF PARTICIPATION				
n rates of all persons aged 15 programme (2002)				
l persons aged 15 and over in 5A programmes	3.9	4.0	14/26	98
l persons aged 15 and over in 5B programmes	0.1	0.7	24/26	14
l persons aged 15 and over in 6 programmes	0	0.2	20/23	-
l persons aged 15 and over in ogrammes	4.0	4.9	18/26	82
change in total tertiary 004) (1995 = 100)				
butable to change in ulation[8]	-	96	-	
butable to change in lment rates[9]	-	151	-	
ates (2004)				
d part-time students in public stitutions, by age				
d 15-19 as a percentage of the ed 15-19	86.1	80.5	1/28	107
d 20-29 as a percentage of the ed 20-29	25.5	24.7	14/28	103
d 30-39 as a percentage of the ed 30-39	2.9	5.6	22/28	52
d 40 and over as a percentage tion aged 40 and over	0.8	1.6	12/22	50

	Netherlands	OECD mean	Netherlands' rank[1]	% to OECD mean[2]
tion of enrolments (2003)				
35 and over as a per cent of s in tertiary type-5A	9.1	10.3	11/24	88
35 and over as a per cent of s in tertiary type-5B	25.7	16.2	6/21	159
35 and over as a per cent of s in tertiary type-6	4.4	30.2	21/22	15
35 and over as a per cent of s in total tertiary programmes	9.3	11.7	11/24	79
less than 25 as a per cent of s in tertiary type-5A	71.4	63.9	8/26	112
less than 25 as a per cent of s in tertiary type-5B	45.4	58.9	19/26	77
less than 25 as a per cent of s in tertiary type-6	14.5	10.2	7/21	142
less than 25 as a per cent of s in total tertiary programmes	70.4	61.5	9/27	114
less than 20 as a per cent of s in tertiary type-5A	18.6	13.9	11/27	134
less than 20 as a per cent of s in tertiary type-5B	9.8	17.2	18/27	57
less than 20 as a per cent of s in tertiary type-6	-	0.4	-	-
less than 20 as a per cent of s in total tertiary programmes	18.2	15.0	12/27	121

	Netherlands	OECD mean	Netherlands' rank[1]	% to OECD mean[2]
ibution of enrolments (2003)				
a per cent of enrolments in 5A programmes	51.0	53.2	21/29	96
a per cent of enrolments in 5B programmes	59.6	54.8	10/29	109
a per cent of enrolments in 6 programmes	41.0	44.0	21/28	93
a per cent of total tertiary	51.0	33.2	21/29	154
tes into tertiary education[10]				
B				
l	-	16	-	-
es	-	14	-	-
ales	-	16	-	-
A				
l	56	53	10/26	106
es	52	48	10/25	108
ales	61	59	12/25	103
of students in tertiary type of institution[11] (2004)				
B education, public	-	64.9	-	-
B education, government-vate	-	19.1	-	-
B education, independent	-	13.4	-	-
A and advanced research public	-	76.7	-	-
A and advanced research government-dependent	100	12.0	1/14	833
A and advanced research independent private	-	11.7	-	-
of students in tertiary mode of study (2004)				
B education				
-time	-	72.1	-	

	Netherlands	OECD mean	Netherlands' rank[1]	% to OECD mean[2]
ution of net entrants into cation, tertiary-type A (2004)				
ercentile (20% of new entrants s age)	18.4	-	-	-
ercentile (50% of new entrants s age)	19.8	-	-	-
ercentile (80% of new entrants s age)	22.7	-	-	-
dents as a percentage of all 003) (foreign and domestic	3.9	7.4	15/27	53
nge in foreign students as a f all students (2004) (foreign students) (2000 = 100)	152	161	11/28	94
udents enrolled abroad in ing countries relative to total lment[13] (2003)	0.9	4.0	27/29	23
anges of the 20-29 age group tive to 2005 (2005 = 100)[14]	109	97	6/30	112
dary attainment rates (2004) aged 25-34 with at least upper ucation	80	77	16/30	104
ears of tertiary education nt conditions (2004) part-time[15]	2.7	3.0	20/28	90
tertiary education[16] Source: 05)				
of the number of places most branches of public and private tertiary education				
t national level with direct ection		1/35	-	-
institutions (In accordance acity or national criteria)		23/35	-	-
most branches	√	11/35	-	-

	Netherlands	OECD mean	Netherlands' rank[1]	% to OECD mean[2]
URE				
xpenditure on tertiary stitutions per student, public nstitutions (2003)				
US dollars converted using on full-time equivalents				
education (including R&D	13444	11254	3/19	107
B education (including R&D	-	-	-	-
A and advanced research (including R&D activities)	13537	-	-	-
education excluding R&D	8337	8093	8/26	103
xpenditure on tertiary institutions per student GDP per capita, public and utions (2003)				
-time equivalents				
education (including R&D	42	43	9/28	98
B education (including R&D	-	30	-	-
A and advanced research (including R&D activities)	43	44	8/18	98
education excluding R&D	26	33	20/26	79
expenditure on educational per student over the average ertiary studies[17] (2003)				
US dollars converted using				
ducation	-	43030	-	-
B education	-	-	-	-
A and advanced research	70932	-	-	-

	Netherlands	OECD mean	Netherlands' rank[1]	% to OECD mean[2]
ertiary education expenditure relative to different factors				
ange between 1995 and 2003 2003 constant prices)				
penditure	112	146	23/25	77
number of students	109	138	13/24	79
penditure per student	103	106	16/24	97
ertiary education expenditure				
t US dollars converted using onstant prices and 2001 constant				
	12311	9284	5/22	133
	12974	10052	6/26	129
on tertiary education as a percentage of GDP, from rivate sources				
lucation, 2003	1.3	1.4	18/29	93
B education, 2003	-	0.2	-	-
A education, 2003	1.3	1.2	8/18	108
lucation, 1995	1.2	-	8/23	-
portions of public and private on educational institutions, for cation				
of public and private sources of educational institutions after n public sources				
s, 2003	78.6	76.4	16/28	103
es, household expenditure, 2003	11.5	-	-	-
es, expenditure of other private	9.9	-	-	-
es, all private sources, 2003	21.4	23.6	13/28	91
es, private, of which subsidised,	1.5	1.5	7/12	100
s, 1995	80.6	-	10/19	-
es, household expenditure, 1995	10.1	-	9/15	-
es, expenditure of other private	9.3	-	5/10	-

	Netherlands	OECD mean	Netherlands' rank[1]	% to OECD mean[2]
of total public expenditure on cation (2003)				
nditure on tertiary education o educational institutions and ers to the private sector, as a f total public expenditure on tion				
lic expenditure on public	-	71.7	-	-
ic expenditure on private	74.1	11.2	2/21	662
c transfers and payments to the	25.9	17.4	6/28	149
on tertiary education as a proportion of total on all educational institutions and private institutions	25.2	24.8	13/29	102
c expenditure on tertiary 003)				
ic expenditure on tertiary plus public subsidies to (which include subsidies for nd other private entities)				
ge of total public expenditure[18]	-	3.1	-	-
ge of GDP	1.3	1.3	11/29	100
financial aid to students as a f total public expenditure on cation (2003)				
/ other grants to households	12.1	9.8	14/28	123
	13.7	7.1	8/17	193
/ other grants to households r educational institutions	1.4	1.6	7/10	88
on institutions by service a percentage of GDP (2003)				
ore services	0.78	1.06	21/25	74
vices (transport, meals, housing nstitutions)	-	0.06	-	-

	Netherlands	OECD mean	Netherlands' rank[1]	% to OECD mean[2]
on tertiary education by resource category (2003)				
of total and current expenditure education institutions from ivate sources				
total expenditure				
ent	95.2	89.7	5/27	106
tal	4.8	10.3	23/27	47
current expenditure				
pensation of teachers	-	43.0	-	-
pensation of other staff	-	23.4	-	-
pensation of all staff	74.6	65.5	7/28	114
r current	25.4	34.5	22/28	74
and tuition fees (2002/03)[19]				
dice (2005)				
and tuition fees and other ade by students of full-time e courses, public sector				
nor compulsory contributions		9/35	-	-
ntributions to student		3/35	-	-
and/or tuition fees (and contributions to student)	√	23/35	-	-
LEVELS				
vement levels of graduates 1994-1995) Source: IALS				
ed 25-34 at IALS levels 1 and t of total graduates aged 25-34	10	19	16/21	53
ed 25-34 at IALS levels 4 and t of total graduates aged 25-34	48	40	7/21	120

	Netherlands	OECD mean	Netherlands' rank[1]	% to OECD mean[2]
of PROVISION				
udents to teaching staff in cation[20] (2004) l-time equivalents, Public and tions.				
e B	-	15.9	-	-
e A and advanced research rammes	-	16.3	-	-
iary education all	13.6	15.5	13/24	88
IONS OF 15-YEAR-OLD				
xpected educational levels e: PISA 2003 (OECD, 2004)				
5-year-old students who expect secondary education, general (ISCED 3A)	40.0	48.9	21/28	82
5-year-old students who expect te secondary education, ogrammes (ISCED 3B or C)	-	29.9	-	-
5-year-old students who expect post-secondary non-tertiary CED 4)	24.9	16.4	3/21	152
5-year-old students who expect e tertiary-type B education	-	20.5	-	-
5-year-old students who expect ertiary-type A education or an earch qualification (ISCED 5A	40.6	44.0	16/29	92
I AND DEVELOPMENT				
stic expenditure on Research				

	Netherlands	OECD mean	Netherlands' rank[1]	% to OECD mean[2]
ation[21] expenditure on R&D ge of GDP				
D (2006)				
	0.50	0.39	6/26	128
	0.57	0.34	3/27	168
of gross domestic on R&D by sector of (2004)				
D (2006)				
ation	27.9	17.3	9/26	161
education in 1995)	28.8	16.3	7/26	177
erprise	57.8	68.0	18/26	85
	14.4	12.1	11/20	119
profit sector	0	2.6	-	-
of higher education on R&D financed by urce: OECD (2006)				
	6.8	6.0	8/24	113
	4.0	6.2	19/27	65
rchers per thousand total Source: OECD (2006)				
	4.5	-	15/22	-
	4.9	5.8	12/25	84
as a percentage of national ne equivalent) (2003)				
D (2006)				
ation	27.4	-	-	136
education in 1995)	36.6	26.9	13/26	-
erprise	51.7	-	-	-
	20.6	-	-	
ECD total "triadic" patent)				
D (2006)				
	1.97	-	6/30	-
	1.96	-	7/30	-
D students as a per cent of	-	13.7	-	-

Notes for the Tables

are from Education at a Glance, OECD Indicators 2004, 2005 and 2006, unless otherwise in the table.

(2005), *Key data on education in Europe 2005*, Eurydice, Brussels
ternational adult literacy survey database
004), *Learning for Tomorrow's World, First Results from PISA 2003*, OECD,

006), *Main Science and Technology Indicators, volume 2006/2*, OECD, Paris

ank" indicates the position of NTL when countries are ranked in descending m the highest to lowest value on the indicator concerned. For example, on the cator *"% of the population aged 25-64 with tertiary qualifications, Tertiary-Total"*, the rank *"x/x"* indicates that NTL recorded the xxst highest value of the countries that reported relevant data. The symbol "=" means that at least one ntry has the same rank.

ECD mean" indicates NTL's value as a per cent of the OECD value. For on the first indicator*"% of the population aged 25-64 with tertiary ions, Tertiary-type B - Total"*, the percentage *"xx"* indicates that NTL's value ent to xx% of the OECD mean.

ulation of the average years in formal education is based upon the weighted l duration of schooling to achieve a given level of education, according to the uration of educational programmes as reported in the UOE data collection.

rnative methods were employed to calculate the average duration of tertiary ne approximation formula and the chain method. For both methods, it should that the result does not give the average duration needed for a student to since all students participating in tertiary education are taken into account, drop-outs. Hence, the figure can be interpreted as the average length of time students stay in tertiary education until they either graduate or drop out.

cators show the ratio of graduates as a proportion to all fields of studies. The education used follow the revised ISCED classification by field of education.

oyed are defined as those who during the survey reference week: *i)* work for

mployed are defined as individuals who are without work, actively seeking ent and currently available to start work.

ct of demographic change on total enrolment is calculated by applying the t rates measured in 1995 to the population data for 2003: population change n into account while enrolment rates by single year of age were kept constant 5 level.

ct of changing enrolment rates is calculated by applying the enrolment rates in 2003 to the population data for 1995: the enrolment rates by single year of 003 are multiplied by the population by single year of age for 1995 to obtain number of students that could be expected if the population had been constant 5.

ntry rates represent the proportion of persons of a synthetic age cohort who rtain level of tertiary education at one point during their lives.

al institutions are classified as either *public* or *private* according to whether a ency or a private entity has the ultimate power to make decisions concerning ution's affairs. An institution is classified as *private* if it is controlled and by a non-governmental organisation (*e.g.,* a Church, a Trade Union or a enterprise), or if its Governing Board consists mostly of members not selected ic agency. The terms "*government-dependent*" and "*independent*" refer only to e of a private institution's dependence on funding from government sources. A *nt-dependent private institution* is one that receives more than 50% of its core from government agencies. An *independent private institution* is one that ess than 50% of its core funding from government agencies.

are classified as foreign students if they are not citizens of the country for e data are collected. Countries unable to provide data or estimates for non- on the basis of their passports were requested to substitute data according to a ternative criterion, *e.g.*, the country of residence, the non-national mother non-national parentage.

ber of students studying abroad is obtained from the report of the countries of n. Students studying in countries which did not report to the OECD are not in this indicator.

icator covers residents in the country, regardless of citizenship and of al or labour market status.

xpectancy (in years) under current conditions excludes all education for younger than five years. It includes adult persons of all ages who are enrolled education. School expectancy is calculated by adding the net enrolment rates ingle year of age.

dicator, the column "OECD mean" indicates the number of Eurydice member /areas, in which limitation on admission to tertiary education is adopted, out of ies/areas whose data is available. For example, in the column "Limitation at

lic expenditure on all services, excluding education, includes expenditure on icing (*e.g.* interest payments) that are not included in public expenditure on .

tion fees" refers to payments related to registration itself or the certified nt of each student. By "tuition fees" is meant contributions to the cost of supported by individual tertiary education institutions. These fees also ny certification fees. Payments for entrance examinations are excluded. In this the column "OECD mean" indicates the number of Eurydice member /areas, in which registration and tuition fees are adopted, out of ies/areas whose data is available. For example, in the column "Membership udent organisations", 5/35 indicates that membership fees are adopted in 5 /areas.

g staff" refers to professional personnel directly involved in teaching students.

Education" includes all universities, colleges of technology and other ns of post-secondary education, whatever their source of finance or legal also includes all research institutes, experimental stations and clinics operating e direct control of or administered by or associated with higher education ns. For detail, see OECD (2002), *Frascati Manual 2002: Proposed Standard for Surveys on Research and Experimental Development.*

patent" means patents filed all together to the European Patent Office (EPO), atent and Trademark Office (USPTO) and the Japanese Patent Office (JPO). cator shows each country's share in total triadic patents filed by OECD Reference year is when the priority patent is filed. Data is estimated by the ecretariat and provisional. Because a few countries share large proportion of tents, other countries have small share.

ic notes:

screpant data, averages have not been calculated individually.

ary type A.

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In this context, the OECD launched a major review of tertiary education with the participation of 24 nations. The principal objective of the review is to assist countries in understanding how the organisation, management and delivery of tertiary education can help them achieve their economic and social goals. The Netherlands is one of 14 countries which opted to host a Country Review, in which a team of external reviewers carried out an in-depth analysis of tertiary education policies. This report includes:

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- an account of trends and developments in tertiary education in the Netherlands;
- an analysis of the strengths and challenges in tertiary education in the Netherlands; and
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